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SOAP

and SANITARY CHEMICALS

In this issue...

Soap product liability — a review of recent cases

* * *

Study of sanitary supply buying habits in Buffalo

* * *

Wood preservatives,—the household market studied

* * *

Toilet soaps,—perfuming and packaging in England

* * *

Cover photo . . . Fred Young, chairman, Davies-Young Soap Co., Dayton, O., who reminisces on his 60 active years in the soap business in this issue.

NOVEMBER 1950

NEO-NEUTRACENE

POWERFUL, ECONOMICAL FLY SPRAY DEODORIZER

● Neo-Neutracene fills the demand for a powerful and low cost fly spray deodorizer in which either Pyrethrum or Lethane is used. It has a remarkable capacity for correcting and overcoming the odor of Kerosene, even when the lower grades are used. Unlike other deodorants, Neo-Neutracene completely neutralizes the fly-spray odor. We'll be glad to send you samples of Neo-Neutracene for use in your own products. Why not write us today!

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SOAP and SANITARY CHEMICALS

Volume XXVI
Number 11
November 1950

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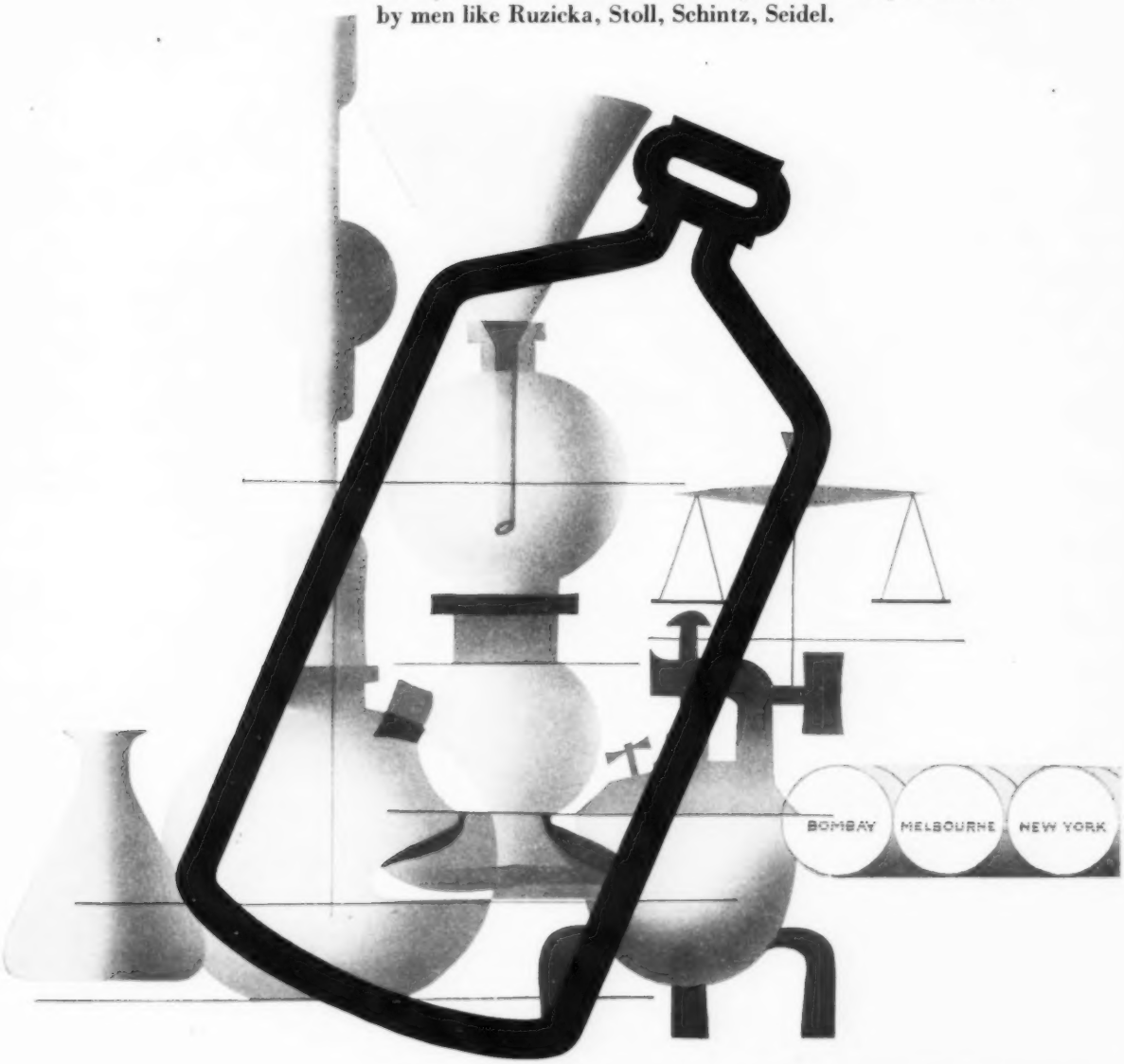

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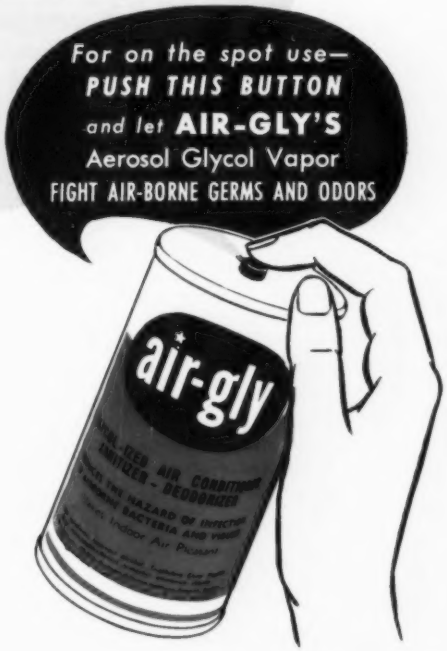

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A GUIDE

TO WAX PRODUCTS PURCHASING FOR PRIVATE BRAND RESALE

SELF POLISHING WAXES

Candy's Supreme—Candy's Supreme Special AS

Candy's DeLuxe—Bright Beauty

Four floor waxes that *are* all-around top quality for any given traffic condition. Each imparts the finest protection and beauty to floors for which they are best suited.

Bright Beauty FLOOR CLEANER

An outstanding material for removing even the heaviest wax film and dirt.... Brings neglected floors "back to normal." The *right* cleaning agent to insure the most efficient floor maintenance.

Bright Beauty CREAM FURNITURE POLISH

A cream furniture polish that spreads easily, polishes without excessive effort and imparts a deep impressive lustre. Too, it permits *repeated repolishing* with a dry cloth saving reapplications time and again; truly a very economical polish of very highest quality.

Bright Beauty PASTE WAX

A paste wax that is properly blended and refined from excellent quality solids and solvents that produce the best drying time and thorough evaporation. A wax that is easy to handle, having "creamy" consistency and stability throughout its stocking and usage period.

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Complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each its own "Dry-Cleaner," they keep a surface waxed with a superb protective coating necessary to many difficult surfaces such as certain floors (where adaptable), bars, wallpaper, etc.

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Bright Beauty DANCE FLOOR WAX

Basic advantages are freedom from "balling up," thus does not gather dirt and impregnate the floor with hard spots difficult to remove... also is free from dusty effects. Adds the protective quality to expensive ballroom floors that means more "floor-years" to users everywhere.

Bright Beauty Heavy Duty PASTE CLEANER

Really *cleans* and *scours* more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive quality, it frees almost every surface from all forms of foreign matter to perfection.

An honest appraisal o
floor wax products as w
see it is offered to guide wax
buyers who want the best quality
money can buy...

1. BEAUTY AND DURABILITY

should be considered together. Initial appearance is important, but for a waxed surface to remain beautiful it must be durable. Durability depends not only on resistance to the abrasion of traffic but even more so on resistance to the collection of dirt and to discoloring traffic marks. Durability is really measured by how long the waxed surface maintains a nice appearance before the necessity of complete removal and re-waxing.

2. ANTI SLIP

qualities are necessary in a good wax as a matter of safety underfoot. This important quality does not necessarily require the sacrifice of beauty and protection which are the foremost original reasons for the use of a wax. Look for the proper balance—a wax film which is not excessively slippery, yet which is not tacky and does not excessively collect dirt.

3. WATER RESISTANCE

is important, particularly when considering the possibility of wet traffic and the necessity for frequent damp mopping for the purpose of removing surface dirt. Overdoing this quality means greater difficulty in applying multiple coats of wax and may seriously increase the difficulty in removal when complete cleaning and re-waxing is necessary. Water resistance is important, but so is the quality of removability.

4. SOLID CONTENT

when expressed in percentage is not nearly as important as the *quality* of the solid content. When considering good quality, 12% of solids answers most needs for good planned maintenance programs. Two applications of 12% will give better results than one of 18%. However, the more concentrated material is useful for some programs of maintenance and particularly on "washed-out" floors, etc. Over-waxing should be avoided so that periodic complete removal will not be too difficult.

5. CARNAUBA WAX

is still the most important basic ingredient in our floor waxes. When refined and compounded with other important ingredients and "KNOW HOW," it aids materially in producing the most important features of a good floor wax... ALL AROUND QUALITY OF PERFORMANCE.

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We do not compete with our jobbers for consumer sales. We sell only to distributors, except for experimental accounts in Chicago essential to research.

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Even the drums that bring you the *new*, granular Santomerse No. 1 are especially designed to make your job of blending cleaning compounds easier. The drums are waxed inside and carefully sealed to shut out moisture and air. As a result, Santomerse No. 1 reaches you in tip-top condition . . . free-flowing . . . easy to blend. And, if you sell in bulk, the drum can be re-used to carry your own product.

Granular Santomerse No. 1 mixes thoroughly with phosphates, silicates and carbonates, giving you mechanical blends that have less tendency to stratify. Santomerse No. 1 is available in three densities so that you can get the bulking you want.

Santomerse No. 1, granular, chemically identical with Santomerse No. 1 flakes, is effective in hard or soft water . . . in alkaline, neutral or acid solutions . . . in hot or cold cleaning operations. An all-purpose detergent and wetting agent, Santomerse No. 1 lifts out dirt particles and holds them in suspension so they cannot be redeposited . . . so they can be rinsed away quickly and easily.

Why not investigate the possibilities of making better cleaning compounds with the *new*, granular Santomerse No. 1? For further information, mail the coupon or contact the nearest Monsanto Sales Office. MONSANTO CHEMICAL COMPANY, Phosphate Division, 1777-L South Second Street, St. Louis 4, Missouri. **Santomerse: Reg. U. S. Pat. Off.*

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Manufactured in three densities . . . gives you bulking to suit your products and markets.

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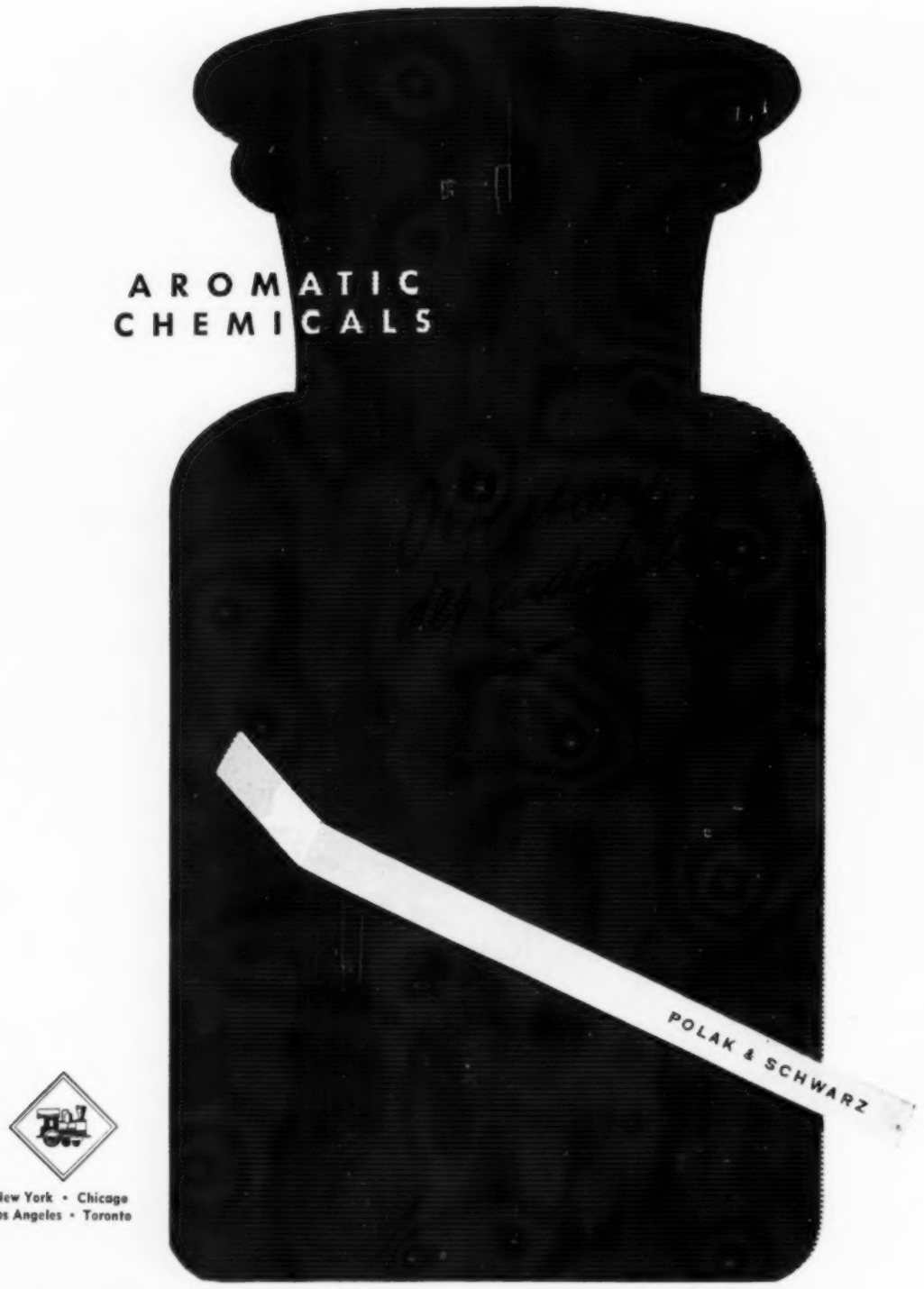

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One product, one easy operation
In one cleaning conditioning operation you eliminate putrefactive decaying bacteria, fungi, mold, and contaminatable germs . . . as this Floor Disinfectant Conditioner-cleaner revitalizes original dazzling lustre of the surface . . . preserves the most delicate surface . . . conditions the floor . . . removes dulling soap film and scum . . . thus revealing truly clean floors. Too, it is safe to walk on—listed an anti-slip material.

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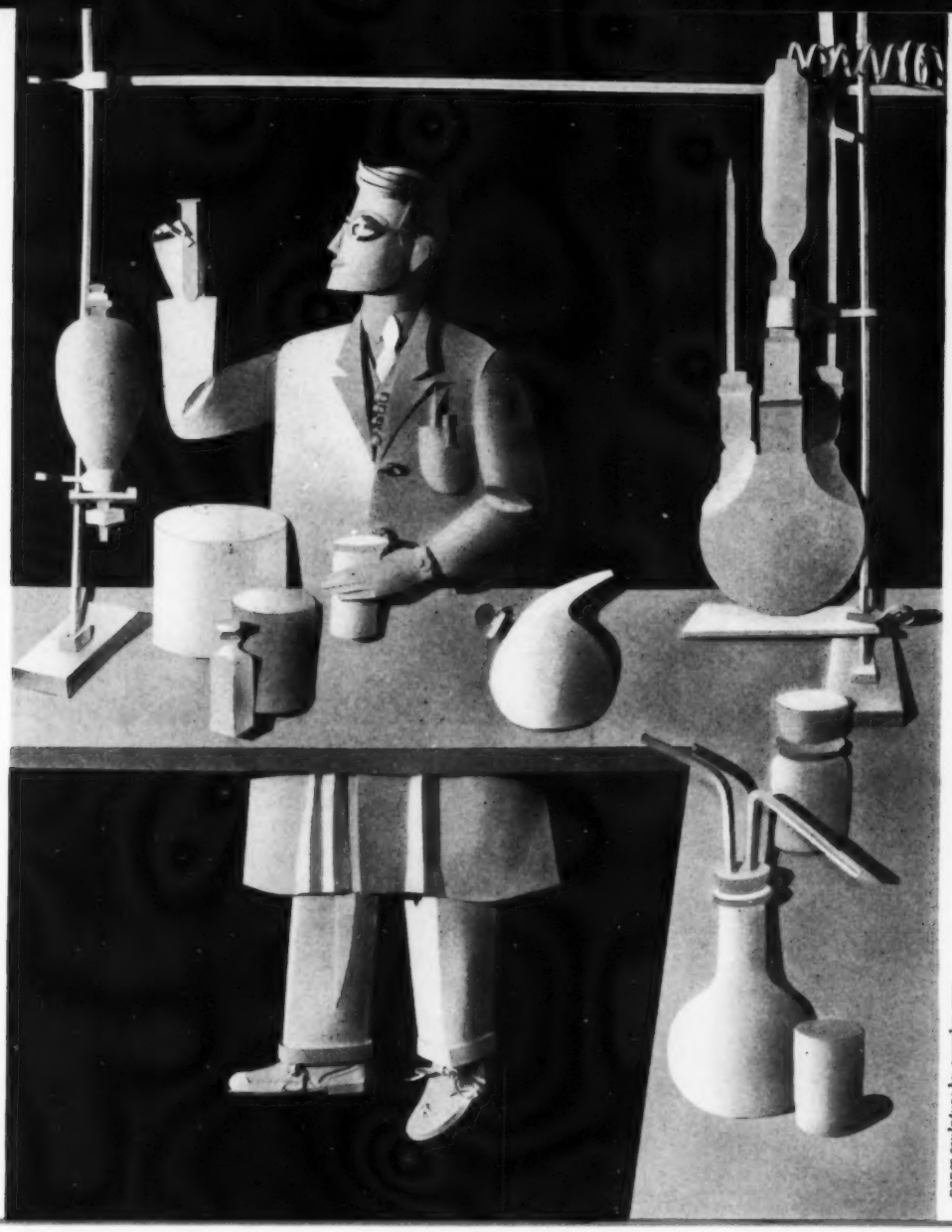

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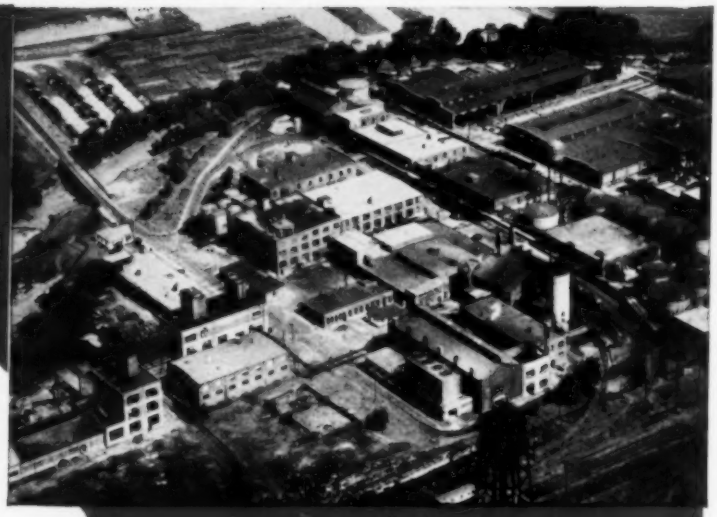

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Compare these outstanding Emery Vegetable Fatty Acids with similar products on the market today. Specifications alone will show you why Emery is the first choice among manufacturers who demand the finest quality. Note how the "300" series offers you extremely light colors and the lowest titers ever available commercially—made possible only by the exclusive Emersol process of selective solvent separation. The "600" series, made only from carefully selected raw materials, provides maximum and uniform quality.

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Emersol 305 Double Distilled Liquid Fatty Acid	5 (max.)	135-145	10Y/1.5R-5¼"	191-197	193-199	3%
Emersol 315 Double Distilled Liquid Fatty Acid	5 (max.)	145-160	10Y/1.5R-5¼"	191-197	193-199	2%
Emery 600 Distilled Cottonseed Fatty Acid	34-38	90-110	20Y/3.0R-1"	197-203	199-205	3%
Emery 610 Distilled Soya Fatty Acid	25-30	115-135	10Y/2.0R-1"	195-201	197-203	3%
Emery 621 Distilled Coconut Fatty Acid	22-26	8-18	30Y/6.0R-5¼"	255-266	257-268	1%
Emery 622 Double Distilled Coconut Fatty Acid	22-26	8-15	10Y/2.5R-5¼"	258-270	260-272	1%

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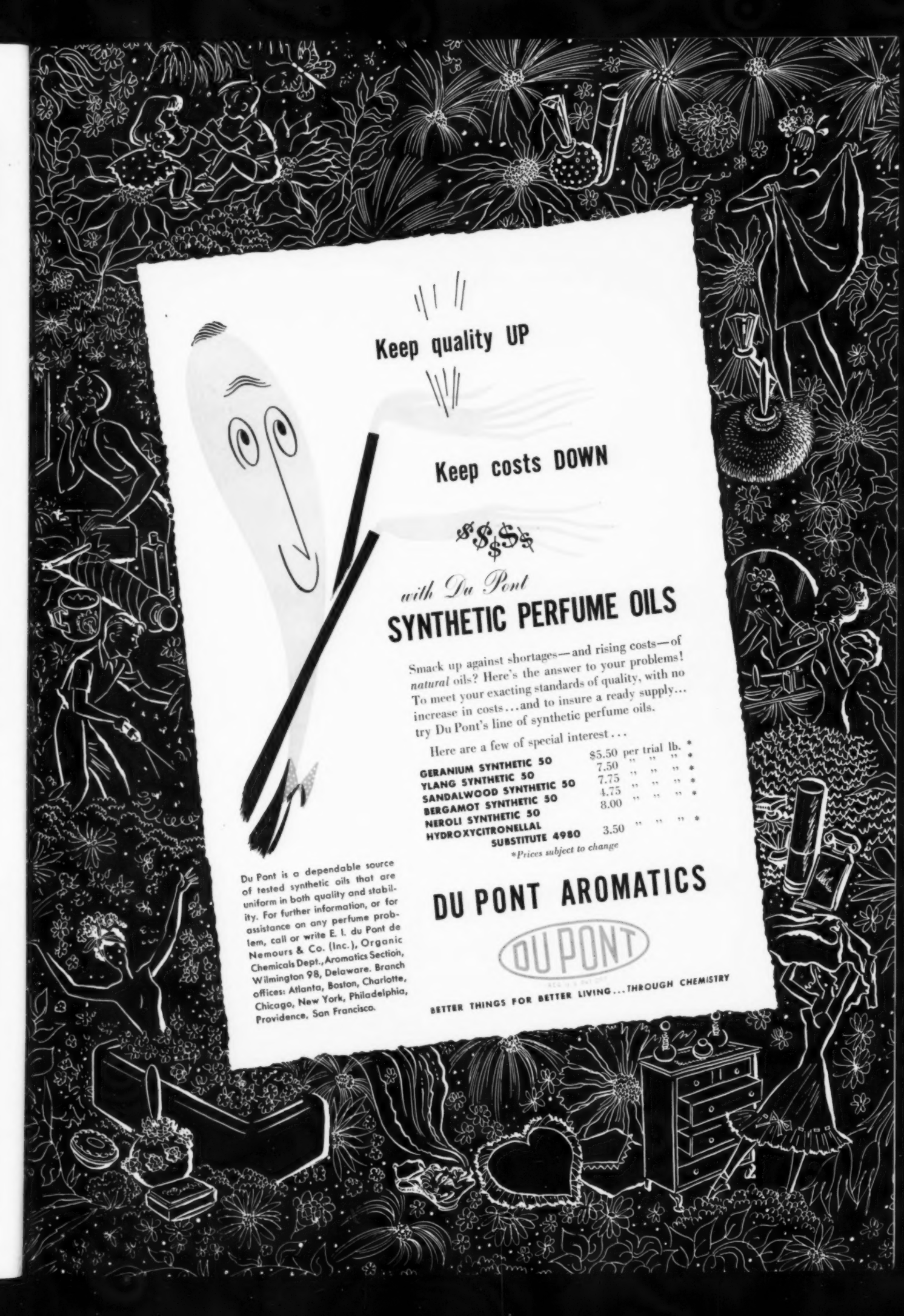

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Smack up against shortages—and rising costs—of *natural* oils? Here's the answer to your problems! To meet your exacting standards of quality, with no increase in costs...and to insure a ready supply... try Du Pont's line of synthetic perfume oils.

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SANDALWOOD SYNTHETIC 50	7.75 " " " *
BERGAMOT SYNTHETIC 50	4.75 " " " *
NEROLI SYNTHETIC 50	8.00 " " " *
HYDROXYCITRONELLAL SUBSTITUTE 4980	3.50 " " " *

**Prices subject to change*

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For better detergents, cleaners and dishwashing compounds SPECIFY...

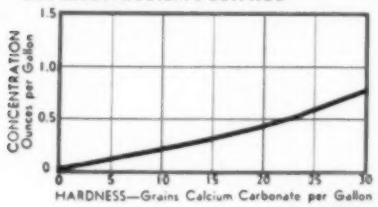
BLOCKSON SODIUM POLYPHOS*

(Sodium Hexametaphosphate)
(Sodium Tetraphosphate)

★ Write for a test sample of Sodium Polyphos. You'll see why it makes clothes so much whiter and cleaner, adds so much extra sparkle to china and silver—and why so many compounders and manufacturers now specify this stable, free-rinsing suds-booster and soap-saver for their leading detergents.

EMPIRICAL FORMULA: $Na_{12}P_{10}O_{31}$
COMPOSITION: 1.2 Na_2O: 1 P_2O_5
STRENGTH: P_2O_5 63.5% pH of 1% solution is 7.2
SOLUBILITY: 150 parts in 100 parts of water at 75° F.

Sequestration and Water Softening Capacity
BLOCKSON SODIUM POLYPHOS



FOR FURTHER DATA AND SAMPLE MAIL COUPON

WATER SOFTENING—SEQUESTRATION

Precipitation of calcium and magnesium salts, which normally occurs with increased temperature or alkalinity, is inhibited when minute quantities of Sodium Polyphos are added to hard water. Larger additions prevent precipitation by *forming inert complexes** with the hardness elements. Precipitates already formed will re-dissolve. These complexes won't react with soap added to cleaning bath or formed by saponification of greases and oils by alkaline detergents. Sticky, fabric-enmeshing and equipment-clogging soap curds are avoided. THUS SODIUM POLYPHOS IS A VALUABLE ADJUNCT TO EVERY DETERGENT OPERATION.

*Also forms inert complexes with metallic ions of iron, copper, nickel, manganese and zinc.

DISPERSION

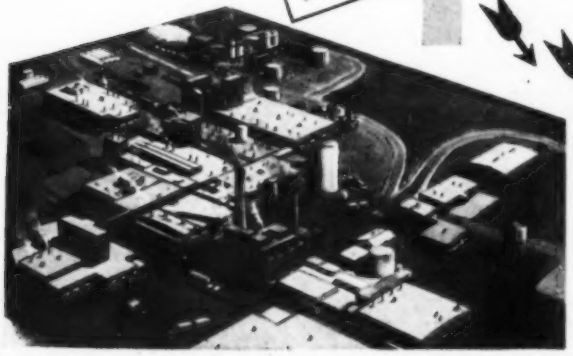
—Sodium Polyphos exhibits to a remarkable degree the property of increasing dispersion of finely divided solids in a liquid medium. Typical applications include: dispersion of clay for coating papers, reducing viscosity of muds for drilling oil wells, water suspension of organic pigments. These, and the listing below, may suggest experimental application to your own particular problem.

OTHER KNOWN USES

—Industrial and municipal water treatment: for preventing scale formation, iron precipitation, and for corrosion control. Boiler compounds, dishwashing and detergent compounds, processing and dyeing of textiles, leather tanning, photographic film developing, flotation and desliming of minerals.

OTHER BLOCKSON CHEMICALS

- Sodium Tripolyphosphate Anhydrous
- Tetrasodium Pyrophosphate, Anhydrous
- Sodium Silicofluoride • Sodium Fluoride
- Trisodium Phosphate, Crystalline
- Chlorinated Trisodium Phosphate
- Trisodium Phosphate, Monohydrate
- Disodium Phosphate, Anhydrous
- Disodium Phosphate, Crystalline
- Monosodium Phosphate, Anhydrous
- Monosodium Phosphate, Monohydrate
- Sodium Acid Pyrophosphate
- Light Alumina Hydrate
- Gloss White
- Sulfuric Acid



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BLOCKSON CHEMICALS

**Sodium Polyphos is a brand name*

BLOCKSON CHEMICAL CO., Joliet, Illinois
Send bulletin on Blockson Sodium Polyphos
Include sample: ☐ Ground ☐ Lump Walnut ☐ Lump Pea

Name..... Title.....
Company..... Street.....
City..... Zone..... State.....

The "solution test" proves another advantage of Wyandotte Kreelon

Lighter color

Guaranteed detergency

Free-flowing flakes or powder

No objectionable odor

Maximum detergency

Because appearance and performance are important factors in your detergent applications, it will pay you to make the "solution test."

Take a sample of *Wyandotte Kreelon** and one or a number of other detergents. Simply dissolve in a given quantity of water. You'll find that most detergents will turn hazy or "muddy." The Kreelon solution, on the other hand, is clear—practically colorless.

Kreelon also dissolves faster and has greater solubility than most other detergents. And it is uniform in *performance* as well as *appearance*. It provides excellent sudsing and soil removal properties, maximum whiteness retention. Kreelon contains a minimum of 40% active agent.

For further information on Wyandotte Kreelon, its properties and applications, just fill in the coupon below and mail it today.

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Please send your literature on Wyandotte Kreelon to:

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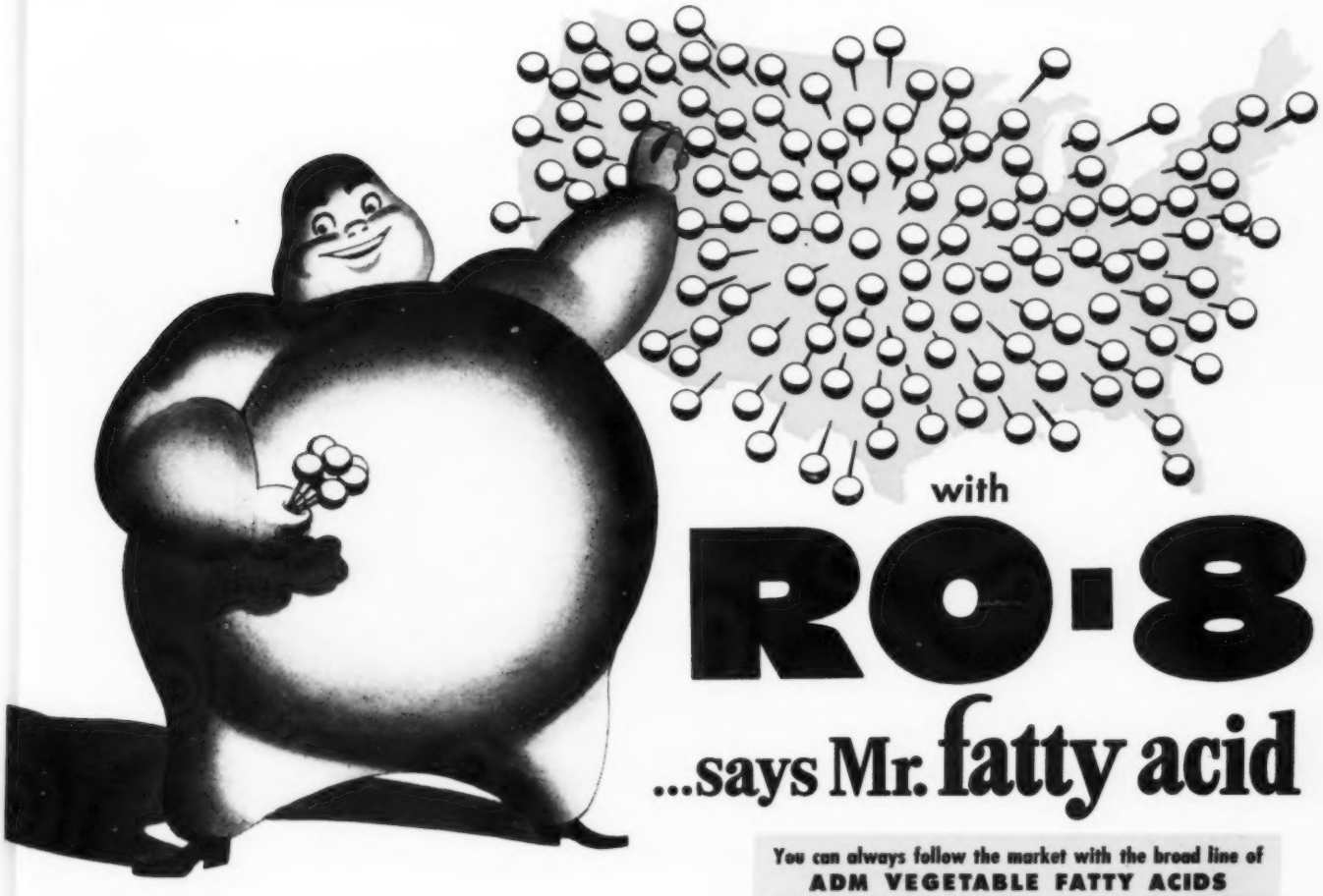

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...says Mr. fatty acid

Are you making alkyds, soaps, putty, caulking compounds, waxes, polishes, insecticides, disinfectants, greases? This inexpensive fatty acid can give you a price advantage that will make your competitors squirm.

For the making of liquid or jell soaps, RO-8 has approximately the same characteristics as the best corn or soya fatty acids. Check the specifications below . . . notice how closely RO-8 matches higher priced materials in all important respects. Then mail the coupon for samples and technical data.

SPECIFICATIONS

Acid No.	195-205
Saponification No.	198-207
Iodine No.	115 Minimum
Color (Gardner)	6-8
Titre °C.	30 Maximum
Wt. per gallon	7.52 lbs.

You can always follow the market with the broad line of
ADM VEGETABLE FATTY ACIDS

FATTY ACID TYPE AND GRADE	PROTECTIVE COATINGS	SYNTHETIC RESINS	INKS	PUTTY AND CAULKING COMPOUNDS	METALLIC SOAPS	LIQUID SOAPS	WAXES AND POLISHES	INSECTICIDES AND DISINFECTANTS	LUBRICATING GREASES	COSMETICS	PHARMACEUTICAL
LINSEED											
Water White	X	X	X								
Regular	X	X	X	X	X	X		X			
SM-500	X	X	X	X	X	X		X			
SM-600	X	X	X	X	X	X		X			
Essential Unsaturated Free Fatty Acids											X
SOYA											
Water White	X	X	X								
Regular	X	X	X		X	X		X			
RO-4	X	X	X		X	X		X			
RO-10	X	X	X	X	X	X	X	X	X		
RO-11S	X	X	X		X			X			
MIXED VEGETABLE											
RO-8	X	X		X	X	X	X	X	X		
CORN-SOYA Double-Distilled				X		X	X	X	X		
CORN Double-Distilled				X		X	X	X	X		
COTTONSEED Double-Distilled		X			X		X	X	X		
COCONUT Double-Distilled		X				X		X		X	

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As of October 1, 1950, Antara Products — General Aniline & Film Corporation was merged with the Organic Chemicals Division of General Dyestuff Corporation . . . The new *Antara Products Division of General Dyestuff Corporation,* thus formed, will coordinate and handle the sales and service of all chemicals and allied products made by the General Aniline Works Division of General Aniline & Film Corporation.

Extensive research facilities have always supported each of these former divisions. Through the amalgamation, the research and service facilities are infinitely strengthened — to an extent that must benefit all present customers of either firm.

You are invited to call upon us for any requirements in the broad field of **SURF**ace **ACT**ive **AGENTS** — Anionic, Non-Ionic or Cationic — detergents, wetting agents, emulsifiers, dispersants, foaming or anti-foam agents, textile finishing agents, etc.

Your inquiry will bring a prompt response — without obligation — as to whether one of the Antara surfactants may make your product easier to sell or less expensive to make. We are also interested in the cooperative development of new products. Kindly address your inquiry to Department 62.

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YOU CAN ACHIEVE important perfuming economies with MM&R Liquid Soap Perfume Oils . . . because they dissolve clearly without filtration in solutions as dilute as 15% . . . and because they are priced at rock-bottom levels despite their superior strength and scent-appeal.

FREE TECHNICAL ASSISTANCE — The MM&R Technical Service Dept. will be happy to recommend — or develop — a perfume oil that will do the job you want within the requirements of your budget! Just send a sample of your unperfumed product and an indication of your price limitations — an economical, sales-stimulating scent will be added *for your approval* — without obligation.

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through QUALITY
ESSENTIAL OILS
PERFUMING MATERIALS
and exclusive
MM&R DEODOR-SCENTS
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4 good reasons why you should use **D-40 detergent**

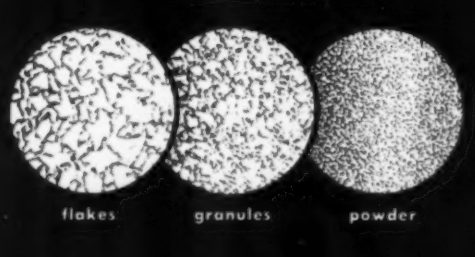
FOR WETTING, FOAMING, CLEANING AND COMPOUNDING

ORONITE CHEMICAL COMPANY

Reg. U.S. Pat. Off.

THE NAME TO WATCH IN CHEMICALS

NEW, WHITER COLOR MAKES D-40 & D-60 EXTREMELY ADAPTABLE FOR ANY COMPOUNDING OPERATION



D-40 has superior *cleaning action* and really gets the dirt, yet D-40 is neutral and will not harm the finest fabrics.

D-40 has fast *wetting and penetrating* action and its remarkable stability over a wide range of pH conditions have proven helpful in a variety of industrial applications, from fruit washing to dye leveling.

D-40 provides abundant *foam* and will add "life" to any compound, yet for special purposes, the foam can easily be eliminated.

D-40 in new whiter color, designed to suit any industrial, compounding or repackaging requirement, is now available in three particle sizes: flakes—granules—powder.

Oronite's Detergent Raw Materials are available in forms to fit the requirements and resources of all possible users. (1) *Detergent Alkane,* a clear, water-white alkyl aromatic hydrocarbon. Available to primary manufacturers of quality detergent products as a base stock for sulfonation. (2) *Detergent Slurry,* the sulfonated derivative of Alkane. A paste-like product for use in many cleaning applications or as a base for further compounding and drying. (3) *Dry Detergents D-40 and D-60,* the dry products from Oronite Detergent Slurry.

Ask for complete technical information from your nearest Oronite office.

ORONITE CHEMICAL COMPANY

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GERMELIM

A Concentrated Soap and Cleaner With the Amazing Phenol Coefficient of 3.5!

Most floor surfaces harbor an amazing number of both harmful and harmless bacteria invisible to the naked eye—presenting health hazards which should never be overlooked.

GERMELIM, in a single operation, cleans, deodorizes and destroys a large percentage of these dangerous germs—leaving floors spotlessly clean and with an extremely low bacteria count.

Clean, disinfect and deodorize floors in a single, thorough operation with Buckeye GERMELIM — latest development of the Davies-Young laboratories. GERMELIM is a concentrated soap and cleaner combination with the amazing phenol coefficient of 3.5. It cleans floors quickly and efficiently—rinses freely. Diluted with water in a 30 to 1 solution, it *destroys* dangerous floor bacteria on contact leaving a clean, lasting odor.

GERMELIM is as easy to use as ordinary floor cleaners, and is equally effective on floor surfaces of every type. You simply prepare a 30 to 1 scrubbing solution with GERMELIM and apply. When savings in time, money and effort are important . . . when low bacteria count is desirable . . . clean with GERMELIM. A free test sample with complete instructions for use is yours for the asking. Use the coupon below.

Another Great Product of
The Davies-Young Soap Company
Dayton 1, Ohio

AVAILABLE IN 55, 30, 15, 5 AND 1 GALLON CONTAINERS

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Please send free sample of GERMELIM and full instructions for its use.

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ADDRESS .....

CITY ..... STATE .....

More than **colors and canvas** are required to create a masterpiece . . . It takes the hand, the skill, the creative genius of the true artist. So, too, in the perfuming of any product . . . Oils and chemicals will produce an odor . . . but a skilled perfume chemist will create a thing of beauty, artfully designed and ably fitted to the particular job at hand.

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COMPARE *these qualities with other* FATTY ACIDS

*COCONUT FATTY ACIDS**—Where uniform Lauric Acid content is desired, A. Gross' Coconut Fatty Acids are your assurance of quality. Manufactured to specifications in two grades:

Regular Coconut Fatty Acids—with no fractions removed.

Special Coconut Fatty Acids—with most of the capric and caprylic fractions removed.

Of interest to manufacturers of cosmetics, shampoos, condensates, alkyd resins.

COTTONSEED FATTY ACIDS — Distilled and double distilled grades for light colored alkyd resins.

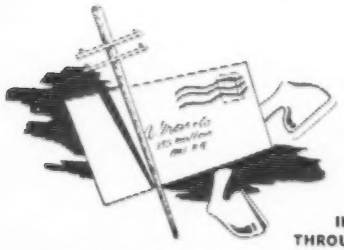
MANUFACTURERS SINCE 1837

*SPECIFICATIONS

	SPECIAL	REGULAR
Titre °C	26°-28°	22°-25°
Color 5¼" Lovibond Red	1- 3	1- 3
Color 5¼" Lovibond Yellow	8- 12	8- 12
Color—Gardner 1933	2- 4	2- 4
Unsaponifiable %	0.25-0.50	0.25-0.50
Saponification Value	252-259	261-270
Acid Value	251-258	250-269
Iodine Value	8- 14	6- 12

*ADVANTAGES

1. Uniform Lauric Acid content.
2. Made in two grades — unfractionated and fractionated.
3. Ideal for cosmetics, shampoos, condensates, alkyd resins.
4. Colors as light as 1 Gardner 1933.



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Thompson Hayward Chemical Co., Kansas City 8, Mo. (and Branches) • Braun-Knecht-Heimann Co., San Francisco 19, Calif. • Charles Albert Smith, Ltd., Toronto 3, Canada • George Mann & Co., Inc., Providence 3, R. I. • Moreland Chemical Co., Spartanburg, S. C.

WHY PAY HIGH PRICES FOR ESSENTIAL OILS?

change to . . .

JAVONELLA

PERFECT FOR PERFUMING...

- LAUNDRY SOAPS
- WASHING POWDERS
- LIQUID CLEANSERS
- POLISHES, ETC.

NOW, MORE THAN EVER, JAVONELLA OFFERS THESE IMPORTANT ADVANTAGES!

- It's a manufactured article . . . free from the price fluctuations of natural essential oils such as Citronella, Sassafras, etc.
- Its high quality never varies, enabling you to manufacture uniformly dependable products.
- Always lower in cost than the natural oils, particularly now with citronella prices on the rise, its use results in production economies and higher profits without lowering quality standards.

WRITE FOR SAMPLE AND QUOTATION

AROMATICS • PERFUME BASES • ESSENTIAL OILS

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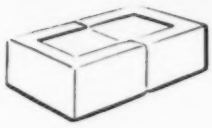
STOCKS CARRIED IN PRINCIPAL CITIES

For
QUALITY
Soap Making...

Specify
SOLVAY
TRADE-MARK REG. U. S. PAT. OFF.
LIQUID CAUSTIC POTASH

LOW IN IRON
and other impurities



Soda Ash
Caustic Soda
Caustic Potash
Chlorine
Potassium Carbonate
Calcium Chloride
Sodium Bicarbonate
Specialty Cleansers
Sodium Nitrite
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For Low Turbidity
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Liquid Caustic Potash
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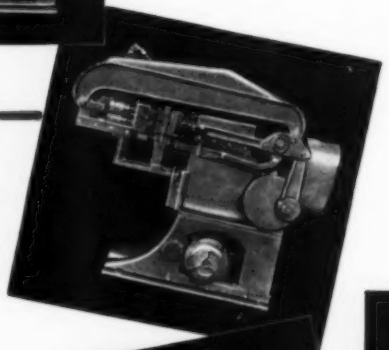
★ JONES

Specialists in Automatic Soap Presses

Type K Simplex Press

For toilet or laundry soap cakes of any shape (except highly convex cakes) with side band. Speeds of 120-140 cakes per minute.

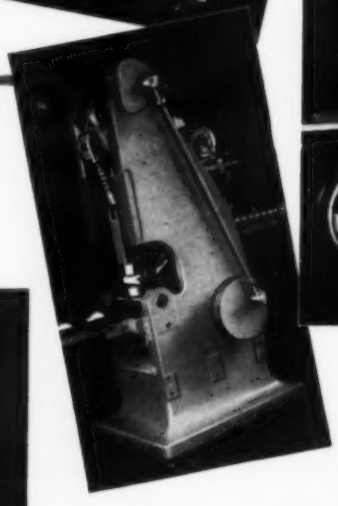


Type K Duplex Press

Applications same as Type K Simplex. Presses two cakes simultaneously. Speeds up to 250 cakes per minute.

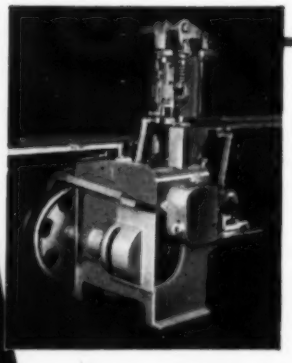
Jones Presses, with their exclusive, patented toggle motion, have become the standard throughout the world wherever high production, high quality, and perfection of finish are paramount considerations.

Standard Jones Presses illustrated here meet all soap pressing requirements. A Jones Toggle Operated Soap Press will improve the appearance of your product, increase your production, reduce your costs. Write today for complete information.



Type R Pin Die Press

For toilet soap cakes of unusual shape, oval cakes, or cakes having highly convex faces, with or without side band. Speeds up to 100 cakes per minute.



Type ET Press

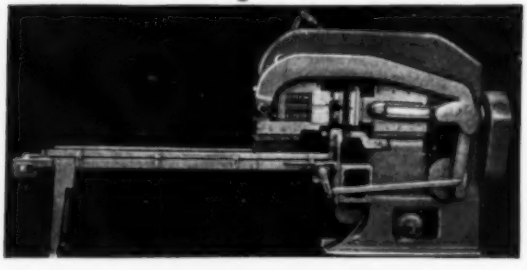
For small toilet soap cakes with side band. Speeds up to 120 cakes per minute.

Type F Press

For large toilet or laundry soap cakes. Available in Simplex or Duplex Models, pressing one or two cakes per stroke.

Type E Press

For small toilet soap cakes (1½ oz. or less). Speeds up to 200 cakes per minute.



R. A. JONES & COMPANY, INC.

P. O. Box 485 CINCINNATI, OHIO

MANUFACTURERS OF JONES TOGGLE OPERATED SOAP PRESSES AND JONES CONSTANT MOTION CARTONERS

AS THE EDITOR SEES IT

GLYCERINE continues as tight as ever. Production is high, as are imports, with the exception of those from Russia, which are virtually nil. Demand, as always in time of war, is large and growing. Controls via restrictions on inventories have already been put into effect. While the official price is currently listed at 44½ cents a pound by American refiners, this figure is far below actual prices on the open market.

Possible relief is seen in the expansion of synthetic glycerine output, plans for which are understood to have been approved and about to be put into effect.

A factor in the glycerine shortage, of course, is the large production and consumption of synthetic detergents, from which no glycerine results. This represents an estimated total glycerine production loss of about 10 per cent. This really hurts at a time when users are clamoring for glycerine.

Aware of the shortage of glycerine, soapers who have the facilities to recover it do not need to be encouraged to push output to the last pound. And, we feel certain, the uptrend in glycerine consumption will continue for some years to come.

WASHINGTON again takes on an aspect reminiscent of World War II days, with Industry Advisory Committees making their appearance, new alphabetical agencies taking over, directive orders, restrictive orders and allocations beginning to appear, buyers of scarce commodities emitting loud screams, and governmental agencies starting to pose jurisdictional problems. The soap industry, we might add, may well figure in a jurisdictional problem in the first round of the current Washington fracas.

Fats and oils, the soaper's most important raw materials, are of course the concern of the Department of Agriculture. But may the Department of Commerce, perhaps, end up with jurisdiction over the soap industry, taking over at the soap kettle? And which agency is to have jurisdiction over glycerine, currently the industry's most essential product? Where will synthetic detergents fit into the picture? Will the industry end up dealing with a number of government agencies, and having authority over it split up? There is already a Glycerine Industry Advisory Committee in process of formation. May there be, at a later date, separate committees covering soaps and synthetic detergents?

In the interest of efficient operation within the industry, and maximum production for the rearmament program, it is sincerely to be hoped that authority and responsibility will not be so divided. Whichever agency is determined by the government brass to have responsibility should extend its jurisdiction over soaps, glycerine and synthetic detergents. And logic would seem to dictate also that one Industry Advisory Committee should suffice.

A DETERGENT brought death to four babies in a Chicago hospital last month, according to newspaper headlines. Before any investigation had been started, Dr. Herman N. Bundesen, president of the Chicago Board of Health, publicly designated "chemical poisoning" as the cause of the deaths. He stated further that the manufacturer of the detergent, both unnamed, had agreed to withhold further deliveries until label warnings are attached.

That this tragedy should occur at all is to be deeply regretted, which is to say the obvious. But why add unnecessarily to public fears with ill-advised statements even before an investigation has been undertaken? Maybe the detergent is toxic if taken internally, but was it basically at fault in these deaths? Or was it another case of misuse in the hospital? No mention was made of

this latter possibility by Dr. Bundesen, nor has it been noted by us in any news accounts.

Remembering last year's spectacular series of newspaper articles on "DDT poisoning," and the more recent FDA investigation into toxic residues on foods, as well as the much-publicized "boric acid deaths" in a hospital a couple of years ago, we had a hunch that prompt publicity capital would be made of this latest accident. We have not been disappointed. The defenders of the public health have rushed into print with their usual alacrity. Who could hope that they would wait for the facts of an orderly investigation?

Once again, we point out the inherent danger in the misuse of numberless everyday things,—knives, automobiles, common chemicals, or what not,—and express the hope that needless restrictions on use or nonsensical label requirements will not be the immediate hysterical aftermath of this latest tragic human mistake. Why not let fact, and not emotion nor a desire to break into print, guide the acts and statements of our public officials?

ALTHOUGH sales of synthetic detergents have risen spectacularly in a comparatively short period of time to reach approximately a billion pound output this year, there are signs that expansion of the household market for synthetics may be leveling off. Statistics compiled by the Association of American Soap & Glycerine Producers for the second quarter of this year show a decline in synthetic detergent sales, as compared with the previous three months, which is the first substantial reduction since they began their long climb upward during the post war years. Throwing out for the moment the effects of the war in Korea on the soap industry, it would seem that at the moment synthetics are enjoying roughly one-quarter of the over-all detergents market.

Further evidence of a tapering off in demand for synthetic detergents and improvement of the position of soap is furnished by local marketing surveys in several sections of the U. S. Although the complete accuracy of these surveys as consumption barometers might be questioned, since they emphasize mainly brand preference, they may serve in the absence of something better to indicate general trends. These local area surveys show recent soap consumption in most cases advancing at the expense of synthetic detergent sales. Such a trend well might be advanced by improvements in certain properties of soap, thus helping this old-time detergent to maintain its supremacy and regain some of the ground lost to synthetics.

THROUGH two world wars and the subsequent sobering-up periods which followed, we viewed the purchase of many things by government agencies for war use and also observed later the disposal of unused material as surplus. Of all the colossal waste, this disposal of war surplus materials seldom has been topped. Billions of dollars worth of materials which not only never were used in war, but which never could have been used, was added to the tax bill of the nation. And the answer is invariably the usual stereotyped "war is always wasteful."

That we are going through the same thing for the third time in one generation is obvious to those who visit Washington and observe what is going on. With the free abandon of a drunken sailor, government money is being wasted through buying too much of many things. It's only government money, so why be annoyed with restrictions? If a million gallons will do, buy ten million. We might need it. The fact that all experience records show that it could not be used is of no consequence. Who in hell cares about experience or records?

If over-buying, particularly by the armed services, upsets civilian industry, brings acute shortages and confusion, hamstrings manufacturers who produce essential civilian goods and possibly some war goods as well, encourages speculation, and forces the government to pay higher prices than ought to be paid, then it should be tempered by a little common sense. The need of industry committees to coordinate and advise on many government purchases is glaringly apparent. Obviously, half of the government procurement personnel in Washington and elsewhere, or at least those who determine procurement policies, don't know what they are doing. As long as they are spending our billions, somebody should tell them,—and quick. The old excuse that war is wasteful is becoming a trifle threadbare.

PRODUCT LIABILITY

of the Soap Manufacturer

By Albert Woodruff Gray

IN AN action brought a few years ago against one of the country's largest soap manufacturers for a patent infringement the United States District Court gave a definition of soap.

What we know as soaps are in chemistry the water soluble sodium, potassium, or ammonium salts of non-volatile fatty acids, or compounds of these fatty acids formed with certain organic bases. The sodium salts comprise the greater portion of laundry and toilet soaps.

A soap manufacturer faces two liabilities, too small a ratio of alkali and no sale for his soap or too great a ratio of alkali and a law suit. On the other hand he is protected by two features of the law that serve as guardian angels to the industry—the contributory negligence of consumers and the innate harmlessness of the product, the comment in a famous decision, "There is nothing inherently dangerous in a bar of soap."

The retail market in Texas carried at one time a "B. & B." brand of soap, the "Biggest and Best." This soap, maintained the manufacturer, was not for bathing but only for laundry and ordinary cleaning with ingredients of purely vegetable products, no oils or animal greases and free from all excessive poisonous or injurious substances.

A woman in Dallas bought this soap from a retailer, used it in the laundering of the family clothes and in consequence her arms and hands were poisoned and inflamed. She sued the manufacturer and recovered. (2) The manufacturer contended that the soap was neither sold nor warranted to the retail customer but only to jobbers and that the manufacturer had made no representations nor sales to this buyer.

In disposing of this contention the court maintained the manufacturer's liability rested on no contract but on the duty imposed by law to avoid acts that by their very nature were dangerous to others.

As authority for this decision the court referred to a New Jersey case that involved canned ham sold in the manner of this soap, by the manufacturer to the retailer and by him to the consumer. The meat was unfit for consumption and the buyer became ill from ptomaine poisoning.

The lower court in this New Jersey case held that as no sale had been made by the packer directly to the victim there could be no warranty that the ham was fit for food, and so no ground on which the customer could recover from the packer. This was the same defense interposed in the Texas case involving the soap.

The buyer appealed and in reversing this decision the New Jersey appellate court said that among the most fundamental of personal rights, without which man could not live in a state of society, is the right of personal security including the preservation of man's health from such practices as may prejudice or annoy it, a right recognized, needless to say, in almost the first words of our written constitution.

To assert therefore that one living in a state of society organized as is ours, need not be careful that his acts do not endanger the health of his neighbor seems to offend against the fundamentals. Upon what other principle does the rule rest that when he uses a highway he must be careful not to collide with his neighbor. (3)

An application of this principle was made a hundred years ago in a famous case in which a drug manufacturer was sued for selling belladonna as a harmless extract of dandelion. The manufacturer here insisted he had made no contract with the retail purchaser and was consequently not liable for the damages.

The New York court said in this century old decision that nothing but mischief like that which actually happened could have been expected from sending a poison falsely labeled into the market, and that the manufacturer was justly responsible for the probable consequences of his act. The duty of exercising caution in this respect did not arise out of the contract of sale. The wrong was in putting the poison mislabeled into the hands of the jobber as an article of merchan-

dise to be sold and afterwards used as the extract of dandelion by some person to them unknown.

The owner of a horse and cart who leaves them unattended in the street is liable for any damage which may result from his negilgence. The owner of a loaded gun who puts it into the hands of a child by whose indiscretion it is discharged is liable for the damage occasioned by the discharge. (4)

This rule laid down in this early case has, however, been tempered by the absolution accorded the soap manufacturer upon the failure of a purchaser to show that he himself is free of any negligence in the use of the soap of which he complains.

The story of the action against the J. R. Watkins Company in the Minnesota courts was told in *SOAP* in December, 1949. There a St. Paul woman bought a bottle of coconut oil shampoo. After the second application of this preparation she began losing her hair and within six months was nearly bald.

Her physician testified at the trial that a high alkali content in the shampoo "would cause irritation to the scalp and might cause a burn or destroy the hair follicles," and that in his opinion the woman had become permanently bald. A professor of dermatology testified that he believed the woman had *alopecia areata*, a condition that could not be caused by any known substance applied externally.

This bottle of shampoo had either been lost or destroyed and no analysis of its contents had been made. The jury rendered a verdict of $20,000 against the manufacturer, that was later sustained by the Minnesota Supreme Court. This judgment of the lower court was attacked on appeal on the ground that no analysis of the shampoo had been made and that there was no proof of the contents of the bottle.

In sustaining this judgment of the lower court the Minnesota Supreme Court said, "A number of courts have denied relief where evidence was lacking as to the contents of a product alleged to be inherently dangerous or poisonous or in the absence of any evidence that such ingredients would produce the harmful results claimed." The court followed this statement of the Minnesota law with references to these decisions of the courts of other states under which no recovery would be permitted with circumstances such as these, naming particularly Pennsylvania, New York and Georgia.

CAR CLEANING PRODUCTS

The large and growing market for all types of cleaning materials and related chemical specialties used in automobile laundries and by car owners will be taken up in an article beginning in the December issue of SOAP. Types of products and equipment used will be discussed and formulas for some products will be listed.

In Pennsylvania not many years ago a retailer sold a preparation for the cleaning of beer pipes and coils. The purchaser followed the instructions of the manufacturer but at the addition of water to this "powdered white substance" came an explosion from which he was severely injured.

The Pennsylvania court pointed out here in its decision in favor of the manufacturer that the purchaser had failed to show the cause of the explosion and his own freedom from carelessness. There was no defect in the container nor any proof that the powder was negligently compounded. Nowhere did it appear that this cleaning powder was different in type, design, ingredients or construction than other preparations in the open market for the same purpose. "This being the fact," concluded the court, "how could the manufacturer's negligence be the cause of the accident." (5)

A very similar case was decided by the Louisiana Court of Appeals last June except that there the damages were the consequence of a hair wash and not soap. In April a woman sought a hair treatment in a Baton Rouge beauty parlor. In a short time afterward her hair turned from brown to black, remained that color for two months, then turned to red and finally grey.

However for four months she had been receiving the same sort of treatments with no ill effect. When she received this treatment she was thoroughly familiar with the preparation and after the incident had continued her patronage of the shop for six months with no complaint of the incident.

Holding that no liability rested on the beauty shop for the consequence of this treatment the court pointed out that negligence for which a recovery of damages can be had occurs only when the victim can be expected to have no information and the person administering the treatment or the manufacturer marketing the soap, "Is assumed to be fully informed of the circumstances and the accident is of a kind which ordinarily does not occur when care has been exercised." (6)

Then and only then is the manufacturer liable for negligence in the manufacture of his product.

The other feature in the law friendly to the soap manufacturer is outlined in a decision by a Massachusetts court in which it refused to hold a dealer liable for injuries from a needle in a cake of soap.

"There is nothing inherently dangerous in a bar of soap," asserted the court, "and it does not appear how or when the needle became imbedded in it or that the dealer knew of its presence before delivering it or could have known of it by the exercise of reasonable diligence." (7)

An identical situation occurred in Wisconsin. The soap here had been manufactured by a packing firm and sold to retailers at Oshkosh in that state. The needle concealed in this cake of soap purchased from the retailer punctured the hand of the purchaser who sued the manufacturer in consequence.

The decision of the Wisconsin court in favor of the manufacturer holding that no liability for damages rested on the manufacturer corresponds to the determination in the Massachusetts case.

A manufacturer or vendor, said the court, making and selling an article intended to preserve or affect human life is liable to third persons who sustain injury caused by the negligence in combining, labeling or directing the use of such articles if such injury to others might have been

reasonably foreseen in the exercise of ordinary care.

The unintentional and negligent contribution of a needle to the soap mixture is a remote possibility, an extraordinary occurrence; a serious injury resulting from such act to persons using the soap for toilet purposes is an unusual and remote consequence.

Negligence in law is not mere carelessness but is careless conduct under such circumstances that an ordinary prudent person would anticipate some injury to another as a reasonably probable result thereof. There was therefore in this case no breach of duty imposed by law on the manufacturer—no actionable negligence shown. (8)

This principle governing product liability or the absence of that liability in the sale of products not inherently dangerous, as in the confusion of belladonna and dandelion extracts, was succinctly set out in the decision of an action in Massachusetts for burns incurred from the use of perfume.

A manufacturer or other person, said that court, knowing or controlling a thing that is dangerous in its nature or in a dangerous condition either to his knowledge or as a result of his want of reasonable care in manufacture or inspection, who deals with or disposes of that thing in a way that he foresees or in the exercise of reasonable care ought to foresee will probably carry that thing into contact with some person, who will probably be ignorant of that danger, has certain legal responsibilities. Such a manufacturer owes a legal duty to every such person to use reasonable care to prevent injury.

Failure to take special precautions against a danger that is only remotely possible, however, is not negligence. (9).

In contrast and highlighting the freedom of a soap manufacturer from liability of this character is that ruling by the Wisconsin court that sets a boundary line to product liability in this industry, "There is

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New Cleaners at Safety Congress

NEW products for control of occupational dermatitis, accident - preventing, non-slip floor waxes, new types of floor maintenance equipment and sanitation chemicals were featured by manufacturers who participated in the Safety Exposition held in connection with the 38th National Safety Congress in Chicago, Oct. 16 to 20.

Stepan Chemical Co., Chicago, made their first public showing of "Neutra-Foam," a neutral, synthetic lathering skin cleanser, which has a maximum pH of 7.2 and other outstanding features. Also shown was "Stepan pH 6 Skin Cleanser" and other items in the firm's line.

Hillyard Chemical Co., St. Joseph, Mo., introduced its new antiseptic surgical soap, containing "G-11," and coconut oil. A new paint and varnish remover, recently added to the company's line, was also shown, along with floor treatment and building maintenance equipment and supplies.

Walter G. Legge Co., New York, showed "Gumrok," an abrasive plastic-like composition material, for application to metal, concrete, wood, or other surfaces, where it provides safer footing at actual danger spots in traffic areas. Safety floor polishes, conductive floor coatings and static grounding devices were also presented.

West Disinfecting Co., Long Island City, N. Y., introduced "Westone," a new anti-septic dust control compound which is germicidal to bacteria and viruses in floor dust, it is claimed. Other products shown included a new surgical soap, formulated with lecithin and "G-11"; a new liquid scrubbing soap, a long lasting hard floor wax, a pigmented floor seal, available in ten colors, as well as disinfectants, deodorants and other sanitary chemicals.

G. H. Packwood Mfg. Co., St. Louis, Mo., announced return to the market of its "Pax Soap Saver" dispensers, with improved features and also showed two new dishwashing compounds, one the sudsless type for machine use, the other a "Hi-Suds" product for hand dishwashing. The full line of "Pax" industrial and home skin cleansers was also displayed.

G. H. Tennant Co., Minneapolis, made its first showing of the new Tennant Model 4 power sweeper, with an exclusive brush and vacuum system, for use in industrial plants, warehouses, garages, docks, ramps, etc.

Normandy Chemical Corp., Muskegon, Mich., introduced "Saif Ice Master," a new product described as composed of chemically treated wood flakes, to be sprinkled on icy surfaces to render them slip- and skid-proof. Also shown was "Saif Floor Dry," an absorbent for oils and other liquids on floors, likewise made from wood flakes.

Among other exhibitors and their products shown at the Safety Exposition were the following:

John H. Breck, Inc., Springfield, Mass., industrial skin preparations.
Canfield Oil Co., Cleveland, floor oil absorbents.
Diversey Corp., Chicago, specialized chemicals for industrial safety, maintenance and sanitation use.
Finnell System, Inc., Elkhart, Ind., floor maintenance machines.
Franklin Research Co., Philadelphia, floor waxes and maintenance products.
Hild Floor Machine Co., Chicago, floor cleaning and maintenance equipment and supplies.
S. C. Johnson & Son, Inc., Racine, Wis., floor waxes and polishing equipment.
Lightfoot Schultz Co., New York, industrial soaps, and hand lotions.
Lincoln - Schlueter Floor Machinery Co., Chicago, industrial vacuum machines, floor scrubbers, polishers, scarifiers, auto scrubbers.
Milburn Co., Detroit, protective skin cream and plastic coated safety clothing.
Multi-Clean Products, Inc., St. Paul, Minn., floor maintenance equipment and materials.
Oil-Dri Corp. of America, Chicago, oil and grease absorbents.
Onox, Inc., San Francisco, Calif., skin toughener and athlete's foot preventive.
Sugar Beet Products Co., Saginaw, Mich., SBS skin cleanser.
Waverly Petroleum Products Co., Philadelphia, Pa., oil and grease absorbents.

At the Oct. 18 session of the Safety Council's chemical section, Procter & Gamble Co.'s use of home-made sound slide films for presenting

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Why a Chemical Consultant?

By John W. McCutcheon

MY EXPERIENCE over the past number of years has indicated that there is a wide misconception among many industrialists of just what a consultant is and how he functions. It is my hope to clarify this situation somewhat and to give my own viewpoint of the role of the consultant as tempered by many contacts with associates in this field.

In the first place, a consultant is not an ogre who runs around with a little black book jotting down all the information he can get so he can sell it at so much a word.

Very recently, the writer had lunch with an acquaintance of many years' standing. We had been associated for some years in the same company. He had remained with the firm and had achieved a position of considerable responsibility. I soon learned, however, that he was frightened to death to talk about his work for fear of betraying his company to the enemy. So we talked of tulips, of his family and high price of spaghetti. I am sure that if we had exchanged a few ideas together, he would have taken away as many ideas as he would have given but, perhaps, this opinion is biased! Apparently he had never learned that the exchange of ideas is the basis of all progress. To test my ideas a little further on this matter, I asked him if he thought there was any possibility of my doing consulting work for his firm. He almost choked on his food. The idea that a consultant could know anything his associates did not know twice as well, was too fantastic for words!

On the opposite end of the scale you occasionally meet the person who thinks a consultant knows everything. If he doesn't give you the answer offhand, it is only because he is trying to figure out how much to charge you for it. Then you have the timid soul who is afraid to call you on the telephone for fear you will send him a bill. These are extreme cases to be sure, but they do illustrate a situation needing more thorough treatment than has been given to it to date.

Any company, large or small, requires a continuing flow of new ideas into its organization to keep it adjusted to the times. Such ideas are stimulated in plant personnel by direct and indirect contact with associates in the field, through plant conferences, trade and other association meetings, personal correspondence, trade journals, printed reports, etc. Hiring new men is also an important way of stimulating new thoughts and most companies consider a small yearly turnover of personnel a very healthy condition.

Imagine what would happen to major league baseball if no players were traded!

Recently, an executive of a large company proudly told me that their new chief chemist had held an important government post in oils and fats during World War II. It was obvious that he expected this man to bring an unusually broad point of view to his new position. The hiring of a consultant is another way of accomplishing this purpose. For example, a small company making liquid waxes and cleaners wishes to go into a new line of specialty products for rainproofing textiles. The company does not feel that its present staff is large or experienced enough to handle this assignment, so they advertise and hire a man who is familiar with the product at, let us say, $8,000 a year. The firm allocates space, heat, light and power for his operations; permits him to hire basic help and purchase the necessary special equipment. Probably the total investment over the first year is $25,000 including plant overhead.

Now, suppose instead of hiring this man they said to him, "Look, we do not feel this project warrants an expenditure of this magnitude. We feel that the job could be done in three or four months, but we cannot ask you to give up a good job to work with us for so short a period. In addition, the equipment you will have to purchase will be of little use to us after we get started and it will be inconvenient for us to find space for a laboratory. Would you therefore, find space, hire assistants, and do this job for us just as if you were working in our plant on a salary. We will pay you a fee covering the cost of the time spent on our work, proportionate to the cost of your overhead, plus a profit. At the same time, we will have no objection to your

What a chemical consultant is, how he functions and the cost of his services may be subject to widespread misunderstanding. To answer some of these questions we have asked the author, who is a widely known consultant on detergents and soaps, to clarify the role of the chemical consultant.

working for any other company so long as you keep our work separate and confidential between ourselves." This type of a contract is the basis for consulting work. A few advantages for both parties are easily discernible.

Let us now examine a few problems that may occur which would justify a similar arrangement.

(1) A manufacturing plant wishes to branch out into a new field. The problem is similar to that mentioned above.

(2) A group of industrialists feels that the detergent field offers possibilities for investment. They wish to know the market, if it is stable, whether it has a future and approximately the capital outlay required per unit of production.

(3) Fundamental research is required to disclose a substitute for a scarce raw material.

Solving Plant Problems

SOME problems are not easily solved by work outside the client's plant. For example, the problem of changing a process operation, or another of bettering poor yields of a product are best handled in the plant.

Still other operations cannot be handled by a casual consultant but only by one well established and known in the trade. Such a problem would be one involving (4) arbitration of a dispute by analysis, (5) acting as an expert witness in court cases, etc. Some types of problems can best be handled by a few words of advice from an armchair. Thus, it is seen that the type of consultation required differs with the problem.

The care with which the consultant is chosen has an extremely important bearing on whether or not the contact will be successful. There are almost as many different types of consultants as there are individuals employed in the profession. The reason for this is quite obvious when one considers that the majority of consultants become such because of special knowledge in a particular field.

For example, a consulting chemist may specialize in catalysts. In this case, he covers a narrow field in a wide range of industries. Or he may cover a wide range in a narrow group of industries such as the writer. He may be a consulting engineer specializing in some type of unit process such as distillation.

Frequently, a consulting chemist has an economic background of experience so that he specializes in chemical market evaluation, along with engineering and plant lay out. Many consultants specialize in analytical work for which there are numerous sub classifications such as organic analyses, food analysis, biochemical assays, ore assaying, inorganic analysis, etc. In addition to all these categories, you may classify consultants into individuals and firms.

Individuals frequently accept long term contracts. One acquaintance of the writer worked in a plant for a solid year before he was able to accomplish the desired result. Most consultants, however, are not able to work exclusively on one problem.

Some individual consultants associate themselves with other consultants either by contract or otherwise so as to strengthen themselves in a particular field of work. A favorite combination is that of a consulting chemist and a consulting engineer.

Consultnig firms may have groups of specialists in various fields associated together under a salary contract. Often such firms are broad in scope, covering analyses, pure research, practical test work, etc. Usually they are equipped extensively for the fields of work covered and may have pilot plants available for process control work. Such firms are often designed to serve specific industries such as the textile industry, the steel industry or the detergent industry.

MR. McCUTCHEON

Is it any wonder then, that industrialists are often bewildered by the multiplicity of functions which consultants perform, and find it hard to make the right selection! There is no solution of this however, chemistry being the complex animal it is.

To add to this complexity still further, there are consultants who are industrialists and head manufacturing companies.

I once asked such an individual if such practice were not harmful since many firms would hesitate to confide process information to him on the basis that he might use it in his own operations. He told me that some companies no doubt did feel just that way, and that he probably lost some accounts through this practice. However, he stated, many firms liked the idea since it gave him a more practical view of their problems and the new accounts brought in for this reason, more than balanced the lost accounts.

A separate group of consultants are those regularly employed in some profession, such as a professor in a university who does consulting work as a side line. He may work alone on the problem, or direct the work of graduate and undergraduate students. In many cases, the work is subsidized by the granting of fellowships by private industry. One of my professors told me that he regularly doubles his salary by such extra curricular activity.

Where to Find Consultants

THERE are numerous ways of becoming informed on the consultants available in any field. One of the best ways is to check the professional directory of the trade journals covering the field desired. For example the August issue of *Soap & Sanitary Chemicals* listed 16 consulting firms of which about thirteen are active in the detergent field. The *Oil Paint & Drug Reporter* of July 31, listed 28 of which about seven are detergent consultants. The August is-

sue of *Industrial and Engineering Chemistry* listed 16, of whom about three are detergent consultants. The professional directory of the August issue of the *Journal of the American Oil Chemists' Society* listed 12 consultants, all active in the oil field and probably four or five in the detergent field also. Most trade journals will supply extra information on request although the best way is to write direct to the consultant or consulting firm and ask for further particulars on their services.

In addition to these sources of information, one may write to the Association of Consulting Chemists & Chemical Engineers at 50 East 41st St., New York 17, N. Y. A yearly publication is issued covering the complete membership, giving a brief synopsis of each, under background experience, education, organization and scope of their activities. In addition a coded scope sheet makes it easy to locate these consultants by their field of service. In the Twelfth Edition (1949) for example, 22 out of 99 active members are listed as specializing in detergent work.

Other sources of help in obtaining information on qualified consultants is from trade associations such as the Association of American Soap and Glycerine Producers, Inc.; American Oil Chemists' Society, etc.

Such firms as Dun & Bradstreet often keep files on leading consultants and their activities. In certain cases the consulting firm will have available the names of clients which may be used as reference, this with the client's consent, of course.

It is important to any firm desiring help of a consulting nature to use great care in selecting the right consultant for the job. Contrary to the usual popular misconception, the average reputable consultant will not simply take on any job he can get his hands on. A consultant's first objective is to do a job that will make a client happy. If the work is outside his field, he should say so and possibly will recommend someone who can handle the job. However, because problems are frequently complex and confused even in the mind of the client there is a natural tendency for a consultant to interpret the problem in terms of his experience and to proceed along those lines irrespective of where the final result will lead.

An analytical chemist may be tempted to look upon the problem of glycerine losses in terms of crude analyses. A production chemist might direct his efforts along the lines of evaporation entrainment. Chemists and engineers by the very fact they are highly specialized may start a problem with a biased opinion.

In a problem such as glycerine loss, the consultant can combine a number of viewpoints. When the trouble appears to be located, he can then direct the work to a specialized laboratory for completion. There is no difficulty involved in this transfer. Consultants will cooperate on such a problem in almost any way the client might desire. If a large firm of consultants is employed, it is very likely that the problem could be handled directly with the one organization. On paper, it would appear advantageous always to seek a large diversified organization to handle any problem. In practice there may be drawbacks so that each problem must be considered on its own merits. In the large organization there is the tendency to keep all work within its borders in order to lower overhead costs. This might not always be practical. In cases where the organization is large enough to have all the necessary experience, it is likely that the operating overhead may become a burdensome factor.

Another fallacy often perpetrated in the selection of a consultant is to insist that the firm previously has worked on the same problems. It is always desirable to choose a consultant who has as close an experience to the problem as possible. When you go farther than this you are really telling the consultant that you want to buy the know-how as he saw it practiced by John Doe & Co. and that you consider his ability to think is nil. When that type of information is desired, I always suggest that we go to John Doe & Co. for a license. Usually the prospective client is horrified at this idea and ends the interview.

When the problem has been thought out thoroughly and a prospective consultant selected, the next step is the personal contact. An appointment is arranged, your problem stated and the consultant outlines how he will attack the problem for you, suggests a type of contract and gives you an idea of costs. Information given at this stage is held confidential as a matter of business ethics, whether or not a contract is consummated. The time consumed in these preliminary contacts may last from a few minutes to numerous repeat conferences depending on the complexity of the problem and its magnitude.

As a general rule, consultants do not charge a prospective client for time taken to sit down and discuss a problem. However, if repeat conferences are requested, appointments at outside offices, etc. the client should be prepared to pay a retainer fee. In any case, the problem is solved simply by asking the consultant at the start what costs are involved. The object of these conferences is to develop the problem to the point where some definite line of action is suggested. These suggestions can then be evaluated in terms of time, costs and probable results and a decision made to proceed or not with the investigation.

Requirements of a Consultant

WE HAVE discussed the requirements of the client. Let us now examine the requirements of the consultant. First, he must have as clear a picture of the problem as it is possible to give at this stage. Additional information must be forthcoming readily. This enables the consultant to judge the general method of attack, the probable success of the undertaking, its legality and other points. A client must also satisfy the consultant as to his sincerity and integrity.

Strange as it may seem, not all jobs offered are accepted. If the consultant feels that essential information is being withheld, that false information is being given or that he may be used indirectly in an unethical

procedure, he may be expected to decline the job.

Sometimes chance remarks indicate that the client distrusts the consultant's integrity: "I do not wish to reveal my identity at this time," or "I represent a very big firm whose identity I will reveal in due course." "You charge so much a day but how am I to know how many days you put in?"

If the client lacks confidence in his consultant to start with, it is very unlikely that a satisfactory contract can be made. In some cases, the consultant must refuse work to maintain integrity with his clients. A few examples will make this clear. In one case, a prospective client wanted the service of the consultant as an expert witness in a court case. It was discovered that the defendant in the case had been a former client and the work was declined although an adequate reason could not be given. In another situation a client provided production figures which were known to be erroneous. The work was discontinued as rapidly as possible since it was felt that the client was not giving proper cooperation. In a third case a prospective job was declined because it involved the installation of a plant too close to that of another on which negotiations had begun. In this case, the grounds for refusal were based on the fact that acceptance would have been a breach of responsibility to "look after the client's best interest."

The problem of ethics is always present in any profession where data of a confidential nature are exchanged. A great many rules could be set up on this subject for both client and consultant but in their essence they can all be resolved into one simple rule, "Do unto others as you would be done by."

Fee Individual Matter

THE fee charged by a consultant is an individual matter and varies with the experience of the consultant, the amount of routine labor required and the overhead charges and profit for the organization. There are so many ways of arranging the contract that it is possible to mention only a few types briefly. In general, consultants have standard rates of fees for each type of work such as analyses, engineering, consultation, patent searching, etc. These fees are the same for all clients. It is untrue, generally, to think that a consultant charges two clients two different prices for the same job. Many jobs can be tailored to a client's purse and requirements, so that what appears to be the same piece of work may actually not be the case at all. A 30 ft. yacht does not cost the same as a 50 ft. one although they are both boats and float. The job that would be satisfactory for one client may be totally inadequate for another. In fact, in all my experience as a consultant, I do not remember any case where two jobs closely resembled one another.

The consultant's fee is an individual matter, depending upon his experience, the amount of routine labor involved and the overhead charges and profit for the organization. Contract arrangements vary.

Consultants may work on a per diem basis in some cases. This is of advantage where the job is ill defined, where travelling or visiting the client's plant is necessary. The client more or less pays as he goes.

In many cases, the consultant will want a down payment before starting work. This is essential in foreign work where restrictions on money transfers exist. In the case of immediate out of pocket expenses or that of the client whose credit is uncertain, an advance payment is customary. A retainer fee basis of payment is also used extensively. When based on a yearly minimum this has the advantage of giving financial security to a consultant and at the same time provides the company with his loyal support and advice in any emergency and at a fraction of the cost required to hire the equivalent experience full time. Usually retainer fee relationships are between clints and consultants who have successfully worked out problems together.

Engineering fees are frequently based on a percentage of the installed equipment cost. The type of operaiton, the complication of the drawings and the size, are factors here. A small plant will cost almost as much labor for detail drawings as a large plant. During World War II the engineering fee for a $25 million dollar explosive plant was 10 percent. Small jobs involving some equipment design may run as high as 30 percent of material cost. Probably values between these figures would be average for the general detergent industry. In a recent case where a specially designed machine was required for wrapping a soap product, the engineering fee ran over 400 per cent of the equipment cost. This is a very unusual case. These examples indicate that fees are individual and depend on the job. In the case of analyses, where equipment and procedures are well defined, the fees are very much standardized. Where the methods are not standard the fee is proportional to the capital investment of equipment, overhead and labor involved.

Contracts vary from simple letters of acknowledgment to complicated legal forms depending on the complexity of the job. The problem should be clearly stated, the method and time of payment and a definition of patent rights if any are involved. Patents procured during the progress of any job are usually defined as the property of the consultant with unlimited license-free-use to the client or the client's assignees. But this may be varied by mutual agreement in many ways. The contract should also have an escape clause to protect both parties against unforeseen emergencies. It should also provide for periodic inspection of the work and a time limit for final accomplishment. These factors usually work themselves out in the preliminary discussions.

Looking back over 60 Years in the

SOAP BUSINESS...

Based on an interview with

Fred Young

Davies-Young Soap Company

SIXTY years in any business is a long time. The soap and oil business is no exception. A lot of soap is still manufactured today pretty much as it was back in 1890, but time has taken its toll of many old products and firms. As industry generally has progressed, so has soap manufacture. Although raw materials and processes basically are the same today as a half-century ago, changes and refinements in manufacturing operations, and the development of innumerable new types of soap products down through the years have brought forth a new industry which bears little resemblance to its predecessor of the Gay Nineties. As the industry has progressed, year by year it has given soap consumers more and better products for less money.

These were a few of the observations made by Fred Young, chairman of the board of the Davies-Young Soap Co. of Dayton, Ohio, in looking back recently over his 62 years in the soap and oil business. He had joined the old J. P. Davies Co. of Dayton on December 10, 1888, quitting high school at the age of seventeen to take over the duties of office boy and make his first contact with the cruel, cold world of business. When he started to work for the old Davies company, he had no idea that this firm and its successor would comprise his sole employer and interest for his entire business life. But, he has in fact worked 62 years for one company, his one and only job.

In 1888, the J. P. Davies Company manufactured lard oil and tallow oil. Lard oil was then being used mainly for lighting railroad rights of way and for lubrication purposes in machine shops. Cylinder oil was made from tallow oil. Petroleum lubricants, as they are known today, had not yet come into general use. Quite a few of the shipments made by the Davies Company in the early days went out via canal boats, especially to Cincinnati. Mules furnished the motive power.

One of Fred Young's first jobs was to write about 150 letters (in long hand, of course, as the firm had no typewriter). These letters were all sent to tanners offering tallow stearine, the solid cake after the oil had been pressed out.

A short time after he started on this job, there came a ring from the new-fangled contraption, the telephone, and he had to answer it. Overhearing his rather inept attempt to carry on a conversation over this awe-inspiring instrument, Davies shouted from the adjoining office, "My gosh, don't you even know how to use a telephone?"

Enter Buckeye Bar Soap

ABOUT this time, John D. Rockefeller's Standard Oil Company began putting out what was called "Mineral" Lard Oil to take the place of "Winter Strained" Lard Oil as a lubricant. It was difficult, at first, to convince the public that anything which came out of the ground could possibly be as good a lubricant as good, old-fashioned animal grease. But Standard Oil succeeded so well in convincing the public of the merits of petroleum lubricants that the J. P. Davies Company saw the handwriting on the wall, discontinued their lard and tallow products, and started out to make bar soap. These yellow bars weighed three-quarters of a pound each, were wrapped in paper and sold under the name "Buckeye."

Davies was accustomed to go to Cincinnati about twice a week to "Change"—as the live stock exchange was then known. At that time, the Cincinnati "Change" was much larger and more important than the one at Chicago and was the largest hog and lard market in the entire country. On one of his trips to Cincinnati, Davies took a cake of the first Buckeye Bar Soap he had made and showed it to Gamble, one of the founders of the up and coming young firm of Procter and Gamble. When asked his opinion of this soap, Gamble said, "That's a nice looking soap, Davies, but there is one mighty important thing you must always remember. Be sure you get one-hundred-and-one cents out of every dollar you put into it."

In 1889 Davies thought Young had progressed far enough to try his hand at selling. So, he was sent out to call on the grocers in Dayton and vicinity to see that they learned the merits of Buckeye Bar Soap. All the groceries were neighborhood stores in 1889, the chains not yet having made their appearance. The office-boy-

turned-salesman succeeded in selling quite a lot of soap in Ohio and his first out-of-state trip was to Charleston, West Virginia, calling on the coal mining stores. "I just didn't overload those stores on that trip," he now admits, but he made some headway and next went over into Indiana to spread the gospel there.

In 1892 Young was promoted to "sort of general manager," as he now puts it. Strangely enough, it seems that his duties also consisted of keeping the books. He was profoundly ignorant of bookkeeping and confesses now that he just started putting down a lot of assorted figures in day book, journal and ledger, hoping that they would balance. When he came to the end of the first year's business, he looked back to see how they had done it the previous year—and he balanced the books!

Chip Soap in 1892

THE year 1892 was momentous in the J. P. Davies Company for another reason. In that year they discontinued making bar soap and started in on an entirely new venture, chip soap. They packed it in barrels and sold it to laundries. Incidentally, they were the first manufacturer to put chip soap on the market to laundries. At this point, it is worthwhile to digress for a moment and discuss the laundry situation at that time. There were practically no laundries south of the Ohio River. Great hampers of soiled clothes came in to the Dayton laundries every week from as far south as Tennessee, Alabama, Mississippi and many other southern states. As can be imagined, the laundries in many of the northern states did a land-office business at that time. It was quite a few years before laundries appeared in the south.

Also, the Davies Company was the first concern to put chip soap on the market for household uses. This was in 1905. It was shipped in packages and was called Buckeye Borax Chip Soap.

Until about 1910, the Davies Company had the chip soap business of the country pretty much to themselves. They had forty-five warehouses located at strategic points over the country. But this condition was too good to last. Several other soap companies entered the business. For the next four years, the chip soap business became increasingly competitive. It soon became apparent that there was not enough room for all the manufacturers in this then narrow field.

In 1913 came the Dayton Flood! About five feet of water covered the first floor of the Davies factory. They lost approximately a thousand barrels of soap and the lather from this went down the rampaging Miami River. Their teams were all drowned, and the carcasses of several horses floated around the factory. The bookkeeping records were all damaged, and they lost their office furniture. About six inches of mud was left on the first floor. It was a calamity of the worst kind.

On August 1, 1914, the day World War I started, the decision was made to liquidate the J. P. Davies Company. "Right here," says Mr. Young, "I did some tall sweating. I wanted to buy the business but I didn't have anything like money enough to swing the deal. I had a family consisting of a wife and five boys by this time. The boys all had hollow legs and were prodigious eaters. And the way they wore out clothes was unbelievable. I had saved a little money, though, and some mighty good friends came to my rescue and helped me raise enough money to buy the business."

Switch to Potash Soaps

SO, THE NAME was changed to Davies-Young Soap Company, a new factory site was acquired on Findlay Street, in Dayton, and the new firm began business.

"The first thirty days of the new business were just plain hell," he admits now. Potash soaps were the main products and the chief source for potash had been Germany. With that source cut off, or practically eliminated, potash prices soared every day. The new company was the only one

The new and larger plant of Davies-Young Soap Co. on Albany St., Dayton, O., which provides approximately 125,000 square feet of floor space. The firm moved last year from No. Findlay St. to its new site.

in the country then making potash soap, and was badly up against it. But Young made a frantic trip east and succeeded in getting enough potash to last for several months.

"Well, we got through World War I, and then came more trouble," said Mr. Young. "In October, 1919 we had under contract a quantity of corn oil which we had to take by December 31st. Up to October 1st, we had shown a very nice profit—and that blankety-blank oil wiped it all out in sixty days—and then some. So I had to start all over again."

"By this time," said Mr. Young, "I had built up an organization which was a tremendous help to me. As the business and its products expanded, I surely needed that organization. Changing conditions call for changes in products and methods of operation. So I kept getting younger heads in the organization and let them grow up with the business."

In 1926 the factory was considerably enlarged. The manufacturing floor space was tripled, new boilers and storage tanks were installed and a larger laboratory was built. New products were being added and the demand for potash soaps continued to grow.

Then Came the Depression

"THEN came the Thirties and the Depression," said Mr. Young. "Let's just skip all that! I hope this country of ours never has to undergo another depression as severe as that one was. It was no fun being in business, especially the soap business."

World War II then broke out. "We got along pretty well until Pearl Harbor," Mr. Young continued. "Then the Japs seized all the islands producing coconut oil, and *that* put us in a jam as we were large users of this oil as were all American soapers. But we got along as best we could and managed to survive the ordeal although it was tough on our customers and tougher on us."

"Two years ago it became evident that we had outgrown our factory on Findlay Street, which we had occupied since 1914. So we looked around Dayton for some time and finally acquired our present set up. We moved out here in February, 1949. We have at least five times the production capacity of our old plant, and the factory is streamlined in a way that was utterly impossible at the old place."

When asked what was his overall impression of the soap industry after being in it for sixty-two years, he made this interesting statement: "It's a mighty interesting industry, and I have certainly seen a lot of changes in it. If, like Rip Van Winkle, I had gone to sleep twenty years ago and just now woke up—I wouldn't know the business, it has changed so much. In fact, I could say the same thing for each of the three score years I've been connected with the soap industry. Changes are continuous, and they have been all for the better. Laundries and dry cleaners, in particular, have made wonderful strides in procedures and techniques. And just about everything else has changed."

Second Generation Takes Over

"YOU have some sons connected with the business, haven't you?" Mr. Young was asked. "Yes, that's another change that has taken place in our company. Four of my five sons are now with Davies-Young. Russell is President. Robert is Secretary and our attorney. Howard and John are Vice-Presidents. Howard heads our Bulk Sales Division, and John heads our Laundry and Dry Cleaning Sales. In his spare time he is Superintendent of the Factory. Herman is the only one who 'went astray.' He is a physician on the staff of the Mayo Clinic at Rochester, Minnesota. He sort of keeps us healthy."

"What are your duties now?" he was asked.

"I'm Chairman of the Board of Directors, and I spend just as little time as possible at the factory. In the summertime I'm too busy raising flowers. Why, I've got a great many varieties of roses, and I'm no slouch at raising zinnias, chrysanthemums, and a lot of others."

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Toilet

By J. M. Vallance

REVERTING for a few paragraphs to a consideration of certain sources of trouble, we may first of all consider the addition of non-soap materials at the mixing stage. The perfume addition is, of course, extremely important. Frequently perfume oils are added in the proportion of 0.5 per cent of the bulk weight or slightly less (i.e. eight ounces per hundredweight of chips), the general range of perfume additions being 0.5 to 1.5 per cent, with one per cent fairly customary and rarely exceeded. Sometimes, in the more expensive or luxury toilet soaps, this percentage may go as high as two per cent. Felix Cola and others have rightly affirmed that this should be regarded as a reasonable maximum, partly because there is little point in making the soap excessively odorous, partly because the apparent odor intensity usually lessens after this peak has been reached, and partly, also, because a tendency to skin irritation may thereafter arise.

A perfect sample of perfumed toilet soap should be fragrant to the last sliver. Soap perfumes should be alkali-resistant, non-discoloring (in white soaps), non-irritant and well fixed. In most cases the soapmaker is well advised not to dabble in perfume compounding on his own account but to purchase his perfume oils, ready-compounded, from reputable perfumery supply houses. In the U. K. there is a current tendency to economize on perfumes by replacing a portion of the perfume oil formerly used with specially prepared fixatives of little intrinsic odor but marked odor-retaining and odor-stabilizing properties.

Carbolic toilet soaps, with a strongly phenolic "perfume," are not satisfactorily made with a toilet soap base of the usual quality, which is

Soaps Part III

and F. V. Wells

somewhat short in texture for that purpose: they must either be prepared with a tougher base, usually containing some rosin, or else the existing base should be "superfatted" with petrolatum, etc.

The chemical characteristics of any added medicaments and coloring materials must be taken into consideration if trouble arises at the mixing stage.

Zinc oxide, and to a more restricted extent titanium dioxide, depending on supplies, are now used very extensively as whitening agents in toilet soaps. From about 0.2 per cent upwards of zinc oxide may be used, according to whether it is employed merely to mask translucency or to impart a characteristic, uniform white opacity. Zinc oxide is not only a whitening agent, however. Forming zinc soaps with fatty acids, it confers an anti-rancidifying action on the soap by preventing the formation of free fatty acids. In addition it is to some extent a mild antiseptic, and it also has a stabilizing, evaporation-retarding action on the perfumery materials present in the soap.

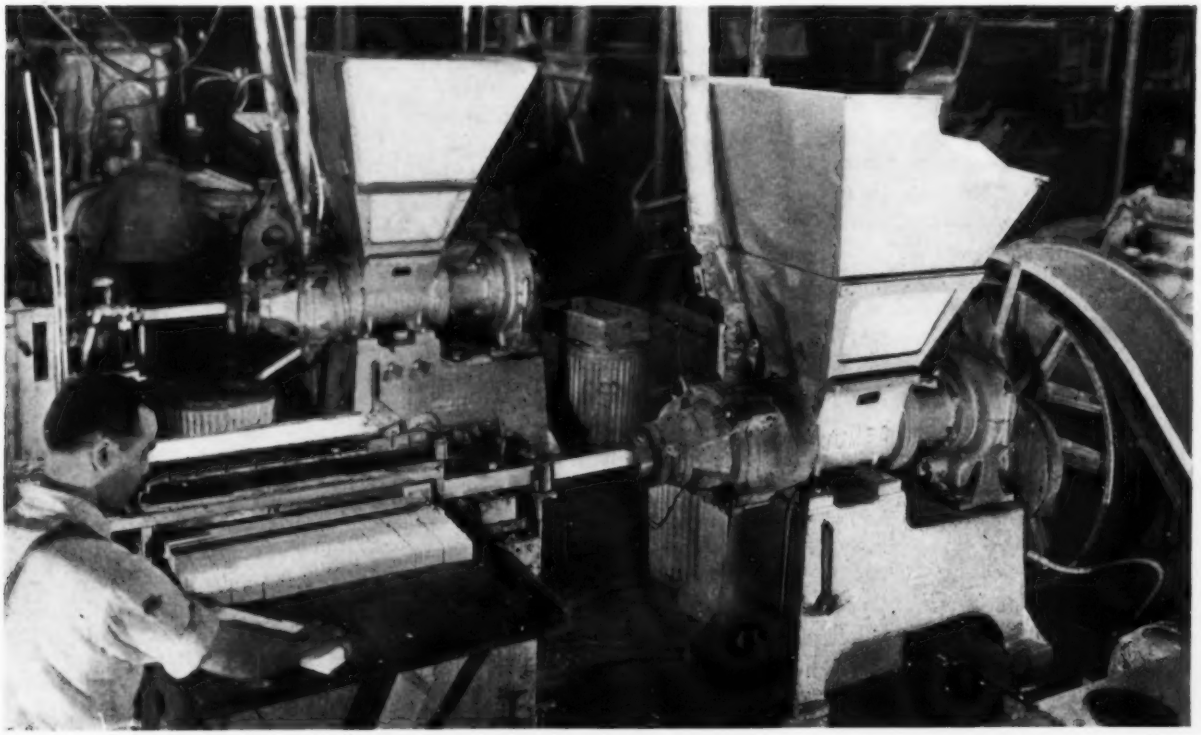
Weight for weight, less titanium dioxide needs to be used in order to achieve the same degree of whiteness. Usually from 0.1 to 0.3 per cent is regarded as satisfactory—this percentage being based on the total weight of soap. TiO_2 has no antioxidant action, of course, and excessive use of it imparts a brilliant whiteness that is not usually pleasing. Comparative tests with dyestuffs used in association with TiO_2 on the one hand and ZnO on the other tend to reveal the superiority of zinc oxide, after the soap samples have stood for six months in storage.

Excesses of these whitening agents adversely affect the consistency and texture of the soap.

While white toilet soaps still remain in the ascendancy, there is a welcome revival in fashion of delicately tinted soaps. It has sometimes been suggested that colored soaps should consist partially of off-colored soap base, but such a practice is obviously illogical: at all times, in the interests of standardization, a uniformly white base should be used—except, of course, in the case of cheaper lines. The choice of soap dyes should always be undertaken in consultation with reputable dyestuff suppliers, and it is generally good policy for the soap chemist to handle only expertly prepared dyes and not to mix up different shades as he requires them. On the other hand, he should know or learn enough about the dyes that he handles to be able to modify shades slightly as and when occasion arises (e.g. when it is necessary to compensate for color variation in the soap base).

Soap dyes should be soluble in water, fast to light and fast to alkalis. They should be non-staining to wash cloths and should preferably not impart a noticeable coloration to the

Soap emerging from plodder travels to cutting table where it is divided into bars preparatory to stamping and wrapping.



lather. Such dyes as the following are commonly used:

Pink & Red: Rhodamine and naphthalene reds.
Yellow: Metanil and tartrazol yellows.
Orange: Fluorescein compound dyes.
Green: Chlorophylls; alizarine cyanin and fast acid greens.
Blue: Disulphine blue, brilliant blue, alizarine sapphire.
Violet: Anthraquinone and special soap violets; blends of red and blue dyes.

Many other shades are made available by the regular supply houses in order to meet the special requirements of soapmakers.

Water-soluble dyes arrive at the plant in powder form and are made up into bulk solutions of standard strength, ready for addition at the mixing stage. Glass or enamelled vessels should be employed for making up the solutions with hot water, and it is essential that sufficient water should be used to ensure that the dyes are still completely dissolved and are not thrown out of solution when cooled. The solution should be filtered and sometimes a small addition of alkali is made. It is highly desirable to use as little water as possible for this purpose.

In the final installment of this series on toilet soaps, the authors discuss the incorporation of additives, and problems involved in cutting, stamping and wrapping.

Superfatting

SUPERFATTING, when it is used, is frequently regarded as a kind of "trade secret." Probably the most commonly utilized superfatting agent is petrolatum or soft petroleum jelly. Lanolin, fatty alcohols, waxes, stearic acid, certain emulsifying agents and glycerine, etc. have also been used, either alone or in suitable admixture. The proportion incorporated depends very largely upon what is actually employed, as most of these substances have a lather-depressing effect. Although some writers have advocated as much as five per cent and others as little as 0.2 per cent, the quantity normally required to produce any noticeable plasticizing and emollient effect is something in the region of one or one and one half pounds per hundredweight (say eight ounces each of stearic acid and white petrolatum, melted and mixed together and allowed to cool prior to incorporation). Although it is sometimes held that a good toilet soap requires no addition of superfatting agents, there is no doubt that such additions, though relatively minor in quantity, do exert a perceptible texture-improving and plasticizing action.

The chief problems that may arise at the mixing stage are relatively simple problems of chemical incompatibility, such as reactions with the soap chips resulting in the liberation of free fatty acids and subsequent rancidity; and variations in physical appearance or consistency, such as may be caused by the presence of insoluble particles of color or by excessive water content. With regard to excess of water, this is sometimes caused by using too weak a dilution of dyes: to overcome this, it may be found useful to emulsify a more concentrated solution of the dye with the perfume compound, using an ounce or so of sulphonated castor oil or other suitable emulsifying agent for the purpose. Again, it is highly undesirable to add water, as such, to chips that are slightly on the dry side: in such a case, the total moisture should be increased by adding suitable proportions of a white soft soap or, better still, by blending the overdry chips with chips of a higher moisture content.

A further point to insure is that no abnormal loss of moisture occurs during the milling operation. The metal rollers, moreover, should not be chilled to too low a temperature, and the soap on leaving the mill should be slightly warm. If the rollers are chilled too much, the soap will emerge in a cold hard state that will throw far too heavy a burden of responsibility upon the plodder and stamping machines. Cracking is not easy to avoid under such conditions.

The need for adequate engineering maintenance will be sufficiently obvious. Smooth metal surfaces should be kept smooth and clean, rust formation should be obviated, and all necessary adjustments and alignments shoudl be made and checked as a matter of routine.

Advice on Plodding

CAREFUL supervision at the plodding stage is always desirable. The compression worm should always be well covered with soap ribbon in order to ensure even compression. Working temperatures are particularly important. The plodder nozzle should be heated uniformly to a temperature just bearable to the touch, although it should be noted that a dry soap naturally requires a higher temperature for easy extrusion than a moist one. Too much heat at the nozzle results in blister and ridge formation, while a lack of heat tends to roughen the soap surface. Plodder plates or dies should conform as closely as possible with the shape of the finished cake. This calls for a good stock of such dies, but the additional slight outlay represents money well spent. If the soap manufacturer tries to get by with only a few dies, the shape of his cake will almost certainly suffer, and the possibility of cracking will be greatly increased.

The problem of crack-formation in toilet soaps has been accorded widespread attention. It is, however, essentially a matter concerning the physical character of the soap, whether this be inherent from the nature of the soap base or successively modified by the various processes of drying, milling and plodding. Undoubtedly, as Godbole and Shukla (10) have pointed out, the operation of plodding is apt to play a most important part in crack-formation, and for that reason the most careful attention should be paid to such factors as plodder design, the type of material being plodded, and the pressures and tem-

peratures involved in the plodding process:

"Cracking is observed either on the surface of the stamped soap cake at times or within the body of the soap after actual use for some time, only in the horizontal direction. It has been further observed that the same soap base develops these horizontal cracks, either on the surface or within the body of the soap cake at different depths, depending upon the treatment to which it has been subjected during the mechanical operations of milling and plodding, and the tendency to develop these horizontal cracks diminishes as the mouthpiece of the plodder becomes smaller.

"The observation re the direction of these cracks is necessary, because cracking is synonymous with the direction in which the soap moves out of the plodder. The bar of soap coming out of the plodder is cut into certain lengths, and is then stamped. In the plodder it should be noted that the milled soap mass is forced out by the screw arrangement into a cylindrical chamber, to make the mass uniform, and is cooled with the help of a water jacket, as the mass of the soap becomes hot and soft due to the pressure of the screw. The water-cooling jacket solidifies the soft mass, which is then forced through a sieve plate with round holes, and the "pencils" of soap are forced out through the sieve-plate into a conical chamber, the length of which varies with different makers. The extent of compression of the pencil cylinders and their being homogenized once more will depend upon the pressure of the plodder and area of the cone, being directly proportional to both of these.

"It should be noted that the mouth of the plodder is surrounded with a jacket of hot water, heated by gas or electricity or steam, as the case may be, so as to soften the surface of the soap bar as it emerges from the mouth. This bar is then stamped into cakes which on stamping imparts a glaze to their surface. It should be noted that the softening and the glaze are only superficial, and are meant to be superficial, because there is not much possibility of softening or fusing the interior of the soap mass. It is in this direction—horizontal—that the cracks, as commonly understood, are observed, that is, in the direction in which cylindrical cold pencils or soap rods are moving in the solidified condition."

U. S. patent 2,484,098 (Knoll and Procter & Gamble) claims that a soap bar having improved, non-cracking properties is produced by passing a soap mass through a grid or screen having numerous apertures, and then reuniting the soap mass and chilling.

It is the business of the soapmaker to minimize plodder troubles —chiefly by paying due attention to the factors referred to in preceding paragraphs. As H. P. Martin points out (11) "an increase in the fatty acid content of the soap base of six or seven per cent will halve the output of the plodder under certain conditions, while a variation of 10° C. will alter it by as much as 15 per cent."

The soap, as it leaves the plodder, should be of the desired moisture content and warm throughout. The heat at the nozzle undoubtedly imparts warmth only to the surface, but the whole of the plodder, worm and jacket, should be at a suitable uniform temperature—say about 90° F. This temperature is obtained by regulating the stream of water passing through the cooling jacket—and if the plodder stands idle for 10 minutes or more, water must be turned off unless it is possible to raise its temperature. If the cooling water is too cold, the formation of a hard, non-uniform core surrounded by a soft warm skin, will result. Such a bar may apparently stamp well but will soon reveal ridge and crack formations due to its structural variations.

An important point to watch is the prevention of air entrainment into the barrel of the plodder, as any air gets spread out into a thin film and, by inhibiting cohesion, favors cracking.

As the soap bar or billet emerges from the plodder, it is cut into suitable lengths by means of an automatic cutting device. Alternately, a roller path is provided to support the bar as it leaves the nozzle die, and provision is made for cutting off the extruded bar by a hand-operated wire cutter.

At this juncture one large soap plant has introduced a specially designed conditioning chamber, shaped like an inverted letter "U," in which a series of racks takes up the cut bars or "blanks" and eventually discharges them, at the end of the chamber, to the stamping machines. In this way the bars are subjected to a predetermined uniform temperature and relative humidity for a set period of time between the application of plodder pressures and of the renewed, reduced pressures of the stamping machines. Probably the incidence of cracking and other forms of distortion is considerably reduced by this means.

Normally the still warm soap, about 30 minutes or so after it leaves the plodder, is fed to the stamping machines, which for long runs are probably fully automatic presses of the standard American Jones type or the British Berkeley type. For special shapes and shorter runs generally, hand stamping machines are used—of which a typical model is fitted with an automatic ejector which lifts the soap cake from the lower die-box after stamping, although this ejector may be disconnected when capacity moulds are in use. Hand stamping machines can, if misused, cause some nasty accidents: there is a growing practice, therefore, to equip them with suitable mechanical safeguarding devices. (12)

It is important to avoid metallic contamination of soap at the stamping stage. Dies should be kept scrupulously clean and polished—a matter that can be attended to by using a good grade of metal polish. If possible, Monel metal or other corrosion-resistant dies should be used. (Monel is also employed for fabricating the tops of cutting tables, storage cans, packaging machine parts, scraper blades and plodder dies).

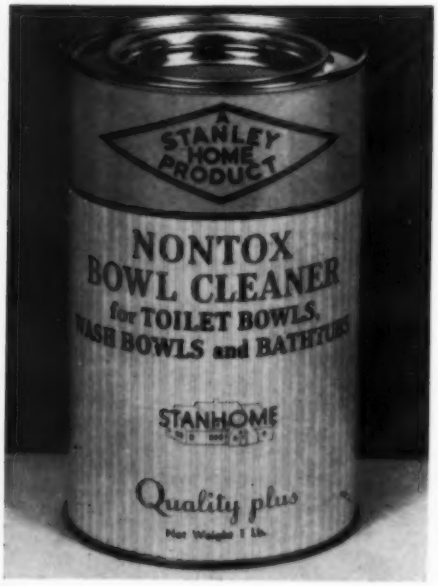
The shape of the finished tablet and the direction in which it is cut have an important bearing on whether the tablet will crack or not

(*Turn to Page* 143)

WHAT'S

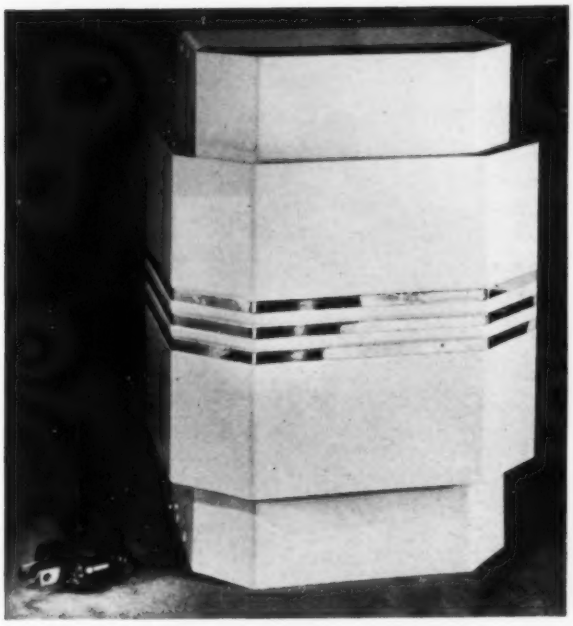
"No-Odor Wick," a recently developed air freshener, which comes packed in six-unit stands for retail display use, is being distributed by Alexander Laboratory, Ltd., Cincinnati. Clay coated chipboard display stand carries out same color scheme used on bottles and labels, with green, yellow and red predominating. Six-ounce, emerald green, oblong bottles and coated metal closures are manufactured by Owens-Illinois Glass Co., Toledo, O.

"Big Stinky," new fly trap shown above, was developed by Dioptron Co., Milwaukee. Traps are available in both gallon and half-gallon sizes, with bottle of control fluid packed with each. Flies are attracted to trap by means of meat or fish bait which is placed in jar. Metal air foils at top of the jars induce air currents and carry off the gaseous odor formed by reaction of control fluid and bait. Owens-Illinois Glass Co., Toledo, supplies the gallon and half-gallon jars with metal closures and eight ounce control fluid bottle.



New bowl cleaner (left) announced recently for national distribution by Stanley Home Products, Inc., Westfield, Mass., is said to be non-toxic and non-corrosive. Called "Non-Tox" it is packed in one pound cans and is pine scented. It is recommended for use in cleaning toilets, bathrooms, lavoratories and for other household cleansing.

S NEW?



"Vitozone" liquid air freshener, made by Fuld Brothers, Inc., Baltimore, is now available for distribution by a new electrical unit. The device automatically dispenses the neutralizing liquid air freshener. It employs a quiet, low-current consuming motor driving a four-blade fan. The "Vitozone" liquid air fresh unit is available in enamel finish with chromium trim.

Recent addition to the "Blue Fern" line of toiletries made by Allen B. Wrisley Co., Chicago, especially for the holiday season is the soap unit above bearing the "Blue Fern" name. Three cakes of bath size soap in the gift package retail for one dollar. Soap with cologne packages are also part of the "Blue Fern" group.

New "Whiz Check-Slip" floor finish (right), announced recently by R. M. Hollingshead Corp., Camden, N. J., is said to contain no wax. It is claimed to self-polish and dry to a hard lustrous finish that is said to be "slip resistant." A water-emulsion type product, it is non-inflammable. "Check-Slip" is designed for use on all types of floors, and dries in 20 to 30 minutes. After 48 hours it is possible to wet mop the finish. Ordinary floor cleaner can remove the finish.

there's plenty of "long green" in SPINACH WASHING
with mixtures based on
Yes, there's plenty of business down on the farm — for fruit and vegetable washing, insecticide sprays, cattle dips, dairy cleaning compounds, etc., etc.
And, practically every washing compound can be benefited by adding NACCONOL, America's Leading Synthetic Detergent. We will be glad to suggest "starting formulas" for your mixtures.
Nacconol*
AMERICA'S LEADING SYNTHETIC DETERGENT

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You can't buy a better *combination* of wetting agent, detergent, dispersant and emulsifier. And you can't have a more dependable source of supply than the leader in production and performance.

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TRADE NEWS

Akron Soap to Stay

Akron Soap Co., Akron, O., is being permitted to continue in business at its present site on Cuyahoga St., as a result of a favorable vote by the City Council, recently. Earlier the Council gave the firm, which residents of the North Hill section of Akron considered a nuisance, six months to vacate the Cuyahoga St. property, location of the firm for the last 46 years. At the same time the City Council passed a companion ordinance, giving the city health department authority to regulate such plants for the first time. To overcome local opposition to the plant by residents of the area and to comply with the regulatory ordinance, Don Pfeiffer, president of Akron Soap Co. has stated that most of the odors from the plant will be eliminated.

The rendering firm also announced that it is going ahead with plans to rebuild, at a cost of about $18,000, the section of the plant destroyed by fire last March.

New Soap Available

Jean Patou's 'Savon Joy' complexion soap, which complements 'Joy' perfume and 'Poudre Joy' now is available in the U. S., it was announced recently. The soap retails for $2.50 a cake.

To Kay Daumit Post

Jack L. Johnson has been appointed western regional manager of the Kay Daumit Division of Colgate-Palmolive-Peet Co., Jersey City, N. J., it was announced recently by H. P. McClure, sales manager. Mr. Johnson returns to the Colgate organization in which he had previously served for over 20 years. After serving as personal salesman and later as district manager of the St. Louis, Chicago and Atlanta districts, he was advanced to the post of manager of the southern toilet articles division on Jan. 1, 1945. In his new position, Mr. Johnson is managing the western region operation, which covers the entire south, mid-west and Pacific Coast areas. He is also personally handling the Walgreen Drug Co. account through its headquarters in Chicago.

J. L. JOHNSON

New Haag Synthetic

A new, all-purpose, synthetic detergent in concentrated form was announced recently by Haag Laboratories, Inc., Blue Island, Ill. The new cleaner is recommended for use on floors, dishes, windows, automobiles, furniture, etc. The concentrate sells for 70 cents a gallon in 55 gallon drums. A trial offer of 40 per cent off the 55 gallon drum price is being made by the company.

Fels Leaves $10,000,000

Samuel S. Fels, head of Fels and Co., Philadelphia, who died last June at the age of 90, left an estimated estate of $10,000,000, it was revealed recently when the executors paid the state inheritance tax in Pennsylvania. The state inheritance tax of 10 per cent was paid in full, less five percent for payment within three months, the sum paid being $950,000.

Cecil Smith Dies

Cecil Smith, 66, former president of Yardley of London, Inc., and a former president of the British Empire Chamber of Commerce, died Oct. 23, after a brief illness.

Born in London and educated at Cholmondley School, Mr. Smith came to the United States in 1921 to establish a branch of Yardley and Co., Ltd. He was connected with the firm for forty years and retired in January, 1949.

He was former president of the Toilet Goods Association of the United States and a former director of the Perfumery Importers Association. Upon his retirement he was succeeded as president of Yardley by his son, Philip C. Smith.

Detergents, Inc., Meeting

The Dallas division of Detergents, Inc., Columbus, O., held its fall sales meeting in Dallas, recently. Also participating were the St. Louis and Denver branch offices. Two home office officials, T. A. Campbell, national sales director, and J. S. Ebright, controller, both of Columbus, attended the meeting which was conducted by Stephen H. Hollern, Dallas division manager.

Babbitt Income Drops

B. T. Babbitt, Inc., New York, and subsidiaries, reported a decline in its earnings in the first nine months of the year, as compared with a year ago. Similarly, its earnings and sales were off in the September quarter of this year, as against last year. Babbitt reported net earnings of $755,909, equal to 73 cents a share on net sales of $12,225,046, compared with $1,193,900, or $1.16 a share on sales of $13,861,895 last year. Quarterly earnings amounted to $263,705, or 25 cents a share, as compared with $401,153 or 39 cents a share a year earlier.

Williams P&G Canada Head

William E. Williams, general manager and vice-president since 1947, was recently elected president of Procter & Gamble Co. of Canada, Ltd., at the annual meeting in Toronto. He has been with the organization for 20 years and has been active in the firm's advertising and sales programs in both the U. S. and Canada during the period. Mr. Williams is the first Canadian to occupy the post.

Other officers are: chairman of the board, R. R. Deupree, who is also chairman of the American company; vice-president in charge of manufacturing, J. R. Baillie; treasurer, R. J. McGinley; assistant treasurers, Frank Taylor and G. S. Woodward; secretary, R. B. Harris; assistant secretary, Samuel Benedict.

C-P-P Sales, Earnings Up

Net earnings and sales of Colgate-Palmolive-Peet Co., Jersey City, N. J., were larger in the third quarter and for the first nine months of 1950 than in the corresponding periods a year ago, it was reported recently. In the nine months to September 30, the firm's net income rose to $10,880,017, or $5.28 a common share, from $8,910,506, or $4.29 a share a year ago. World-wide sales, including those of foreign unconsolidated subsidiaries, amounted to $230,058,156, as compared with $227,517,581 a year ago.

For the September quarter, Colgate reported a net income of $5,261,131, or $2.58 a common share, as compared with $3,612,042, or $1.75 a share a year ago. Sales during the third quarter of 1950 were $90,414,484, as against $80,651,686.

Aug. Soap Fat Use Doubles

The reported factory consumption of primary animal and vegetable fats and oils for August was almost double that reported for July, according to figures released recently by the Bureau of Census of the U. S. Department of Commerce. The reported total for August was 182,512,000 pounds against 97,059,000 in the previous month. The large increase in consumption of fats and oils reflects increased soap buying and stepped up output as a result of the Korean situation. Figures in thousands of pounds for August follow:

Materials	*Pounds*
Soybean oil, crude	152
Olive oil, inedible	60
Olive oil, sulfur foots	589
Coconut oil, crude	13,235
Coconut oil, refined	10,726
Castor Oil No. 1, crude	13
Castor Oil No. 3, crude	36
Tallow, inedible	82,009
Tallow, inedible, refined	25,660
Grease	30,359

B. T. Bush to Europe

Burton T. Bush, consultant for the Bush Aromatics Division of the Dow Chemical Co., Midland, Mich., sailed for France on October 14 to consult with Herbert Fraysse, president of the House of Synarose, which is represented in the United States, Canada and Cuba by the Bush Aromatics.

While in France, Mr. Bush is to investigate matters now pending with the Bush Aromatics Division and make market studies for the essential oil and aromatic chemical industry. Mr. Bush planned on remaining in France about a month.

Lockman Joins Bourjois

Richard Lockman, assistant director of advertising and sales promotion of Mennen Co., Newark, N. J., for the last five years, was appointed recently as advertising manager of Bourjois, Inc., New York.

Hugo S. Gensel is Dead

Hugo S. Gensel, 60, formerly for 25 years vice-president of J. R. Watkins Co. in Newark, N. J., died of a heart attack, October 17, in his home at West Palm Beach, Fla. He left the Watkins company in 1945 to join a branch of the Reconstruction Finance Corporation in New York, resigning two years later. At the time, he sold his home in Hillside, N. J., of which community he had served as Mayor from 1939-1942, and moved to Florida.

BIMS Annual Dinner Jan. 25

The annual dinner of the BIMS of New York will be held Thursday, January 25, 1951, at the New York Athletic Club.

Moffitt to Hooker

Thomas E. Moffitt has recently been appointed assistant works manager of the Tacoma plant of the Hooker Electrochemical Co., Niagara Falls, N. Y. A graduate of Cornell University, he was active in Northwest engineering at Spokane and Seattle from 1920 to 1930, when he first joined Hooker. He was assistant western sales manager from 1930 to 1945 and was acting western sales manager during World War II.

From 1945 until the present appointment, Mr. Moffitt was employed by Weyerhauser Timber Co., and Pennsylvania Salt Manufacturing Co.

Roy W. Peet, center, manager of the Association of American Soap & Glycerine Producers, Inc., with Gavin K. MacBain, treasurer of Bristol-Myers Co., New York, attending the October meeting of Brand Names Foundation, Inc., at the Foundation's new headquarters, 37 W. 57th St., New York. Paul West, president Assn. Nat'l. Advertisers, is at the left.

Lever Research Changes

Seven shifts in the research and development department of Lever Brothers Co., New York, including the appointments of Dr. L. B. Parsons and N. T. Joyner as assistant directors of research, were announced recently by Dr. T. H. Ridder, director of the Lever research department.

L. B. PARSONS

N. T. JOYNER

Dr. L. B. Smith was named manager of the basic laboratories section. Other appointments were Lowell O'Daniel as manager of the administrative services section; Webb Rogers, manager of a newly established technical services section; and Philip M. Maxwell, manager of the detergents-process development section.

In his new position Dr. Parsons directs the newly formed product development and the basic laboratories sections. Mr. Joyner takes charge of the administrative and technical services sections. Both men are members of the American Chemical Society and the American Oil Chemists Society. Mr. Parsons has been with Lever's research department since 1939, and Mr. Joyner joined the firm in 1932.

All are located at the Lever research headquarters in Cambridge, Massachusetts.

Changes in the Lever traffic department include the naming of W. I. Stewart as assistant general distribution manager. W. E. Malone is now traffic manager. Both men make their headquarters in New York. Becoming district traffic manager at Los Angeles, where the new Lever manufacturing plant is nearing completion, is Maxwell Glen. R. W. Mahoney has been transferred to Los Angeles as senior clerk and R. S. Deneholz becomes distribution guide clerk.

New Cleaners for Printers

Chemical cleaners for the printer, designed to keep pace with technological developments, were exhibited by Anchor Chemical Co., Brooklyn, at the Graphic Arts Exposition in Chicago, Sept. 11 to 23. Built around the theme "Modern Chemistry in Everyday Printing," the display included a new non-inflammable "Solvent No. 95."

Among other new products shown were a plate wash for use on plates of plastic, rubber or magnesium; also cleaners for new synthetic rubber ink rollers and blankets; a product to prevent waste of ink by "skinning" in ink fountains or storage cans; a numbering machine cleaner, etc.

Tuttle Retires from P&G

Walter H. Tuttle has retired as treasurer of Procter & Gamble Co., Cincinnati, and George S. Woodward, Jr., was elected to succeed him, it was announced recently. Mr. Tuttle is continuing with the company in an advisory capacity.

W. C. Bryant was named assistant treasurer and Walter L. Linge, Jr., Howard L. Morgens and John G. Pleasants were elected directors.

New Dairy Cleaner

G. L. F. Exchange, Ithaca, N. Y., has announced recently a new dairy cleaner-sanitizer, described as a one-solution washing and sanitizing material which produces good results in hard or soft water. While intended primarily for washing dairy barn equipment, it may be used as an udder wash, poultry equipment sanitizer, or wherever a germ killer is indicated. Distribution in five-pound cans is made through the co-op's outlet stores to farmers in New York state, and parts of Pennsylvania and New Jersey.

Dow Names M.M.&R.

Magnus, Mabee & Reynard, Inc., New York, were recently appointed as distributors in New York for propylene glycol, N. F., made by Dow Chemical Co., Midland, Mich.

Perry on AASGP Program

James W. Perry of Massachusetts Institute of Technology and co-author with Anthony M. Schwartz of the book, "Surface Active Agents," is to speak on "New Uses of Bulk Soaps and Synthetic Detergents" at the meeting of the Industrial Soap Division during the 24th annual convention of the Association of American Soap & Glycerine Producers, Inc., it was announced recently. The convention is to be held Jan. 31 and Feb. 1, at the Hotel Plaza, New York.

Another feature of the program, just announced, is a quiz type discussion on synthetic detergents. A panel of four experts in the field and a moderator, still to be named, will answer questions submitted in advance. Prizes will be awarded to those whose questions are used.

The make-up of the 1951 convention is similar to that of the past two years, with group luncheons on both Wednesday and Thursday, and the banquet on Thursday night, Feb. 1. As in 1950, the "Maid of Cotton" Fashion Show is scheduled as one of the high spots of the program being arranged for the women guests.

William G. Werner, director of public relations of Procter & Gamble Co., Cincinnati, is chairman of the convention committee.

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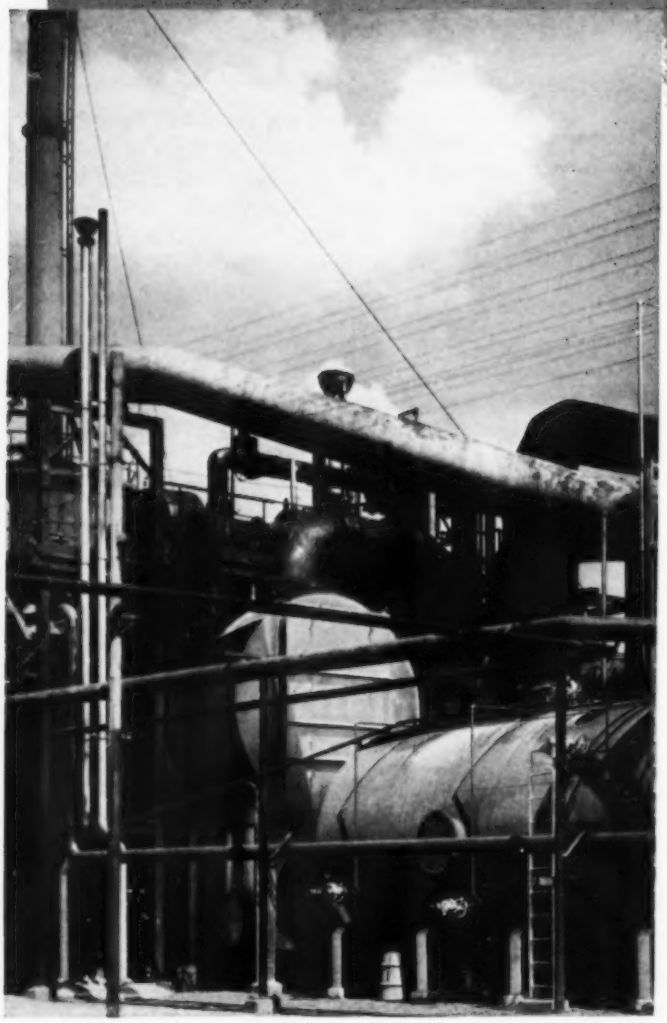

- Sulphuric Acid
- Processed Sulphur
- Soda Ash
- Caustic Soda
- Bicarbonate of Soda
- Ammonia
- Ammonium Sulphate
- Nitrate of Soda
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The wide variety of Mathieson products meets the basic chemical demands of American industry—with the benefits of simplified, centralized purchasing, cooperative, economical traffic control, and chemicals of high purity standards. Mathieson Chemical Corporation, Mathieson Building, Baltimore 3, Maryland.

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Detergent Reduces Etching

Application Research Laboratory of the Solvay Process Division, Allied Chemical & Dye Corp., New York, recently released a 26 page report describing a research project in which the synthetic detergent, "Nytron," was shown to lessen the corrosion of caustic soda solutions on glass surfaces. The primary purpose of the work was to seek means to reduce the corrosion of bottles in machine washing. However, according to the report, the results indicate a possible wider field of benefit in reducing corrosion wherever glass or ceramic surfaces are in contact with alkaline solutions.

Mathieson Chemical Gains

Mathieson Chemical Corp., Baltimore, reported recently that its net earnings of $2,086,466 in the third quarter of 1950 were the highest for any similar period in its history.

Earnings for the first nine months after taxes amounted to $6,496,551, compared to $5,190,700 in the same period last year. Earnings a share for the three quarters were $2.39 on the new stock, compared with $1.91 (reported as $3.82 on old stock) in 1949.

M. C. A. Opens N. Y. Office

Manufacturing Chemists' Assn., Inc., Washington, D. C., has recently opened an office at 330 W. 42nd Street, New York, under the direction of Robert L. Taylor, executive vice-president. Activities of the new office are being devoted initially to public relations.

Cos. Chems. Award to Kunz

Dr. Eric C. Kunz, president of Givaudan-Delawanna, Inc., New York, will receive the 1950 Medal Award for contributions to the art and science of cosmetics at a dinner meeting of the Society of Cosmetic Chemists, sponsor of the award, Tuesday, Dec. 5, at the Biltmore Hotel, New York, during the Society's annual scientific meeting. Dr. Kunz is being honored particularly for his contribution to the development of the American aromatic chemical industry. His part in the development of hexachlorophene ("G-11") germicide was also cited in

DR. ERIC C. KUNZ

choice of the Givaudan executive as the 1950 medal winner.

In announcing the program for the annual technical meeting of the Cosmetic Chemists on Dec. 5, among the papers of interest listed were the following: "Experiences with and Consideration of the Human Patch Test Method" by Dr. Herman A. Shelanski of Industrial Toxicology Laboratory, Philadelphia; "A Method of Testing the Degerming Efficiency of Hexachlorophene Soap" by Dr. Arthur R. Cade of Sindar Corp., New York; "A New Quantitative Method for the Evaluation and Study of Shampoos" by G. Barnett and Dr. D. H. Powers of Richard Hudnut, New York; and "Pressure Packaging of Cosmetic Products" by Earl Graham of Crown Can Co., Philadelphia.

ADM Appoints Two

Ellis D. English, president of Commander-Larabee Milling Co., and vice-president of Archer-Daniels-Midland Co., Minneapolis, was elected recently to the board of directors of ADM at a meeting of the stockholders October 10. He was named vice-president of ADM in April, 1950.

W. G. Andrews has been elected assistant vice-president of the company. He joined ADM as a control chemist nine years ago. After serving as a research chemist and in the technical service department, he was made director of special oils service in 1948.

Lever-Unilever Offering

Lever Brothers and Unilever, Ltd., London, parent organization of Lever Brothers Co., New York, recently offered £10,000,000 ($28,000,000) worth of stock to the public. The additional working capital provided by the sale is to be used to meet the current program of capital expenditure. This includes modernization of existing factories and building new ones to adapt production capacity to changing requirements and increasing demand. At the same time, it was announced, the additional finance will go toward meeting higher raw material costs and increased sales. The offering is on debenture stock, maturing 1955-72.

Heads Fels Fund

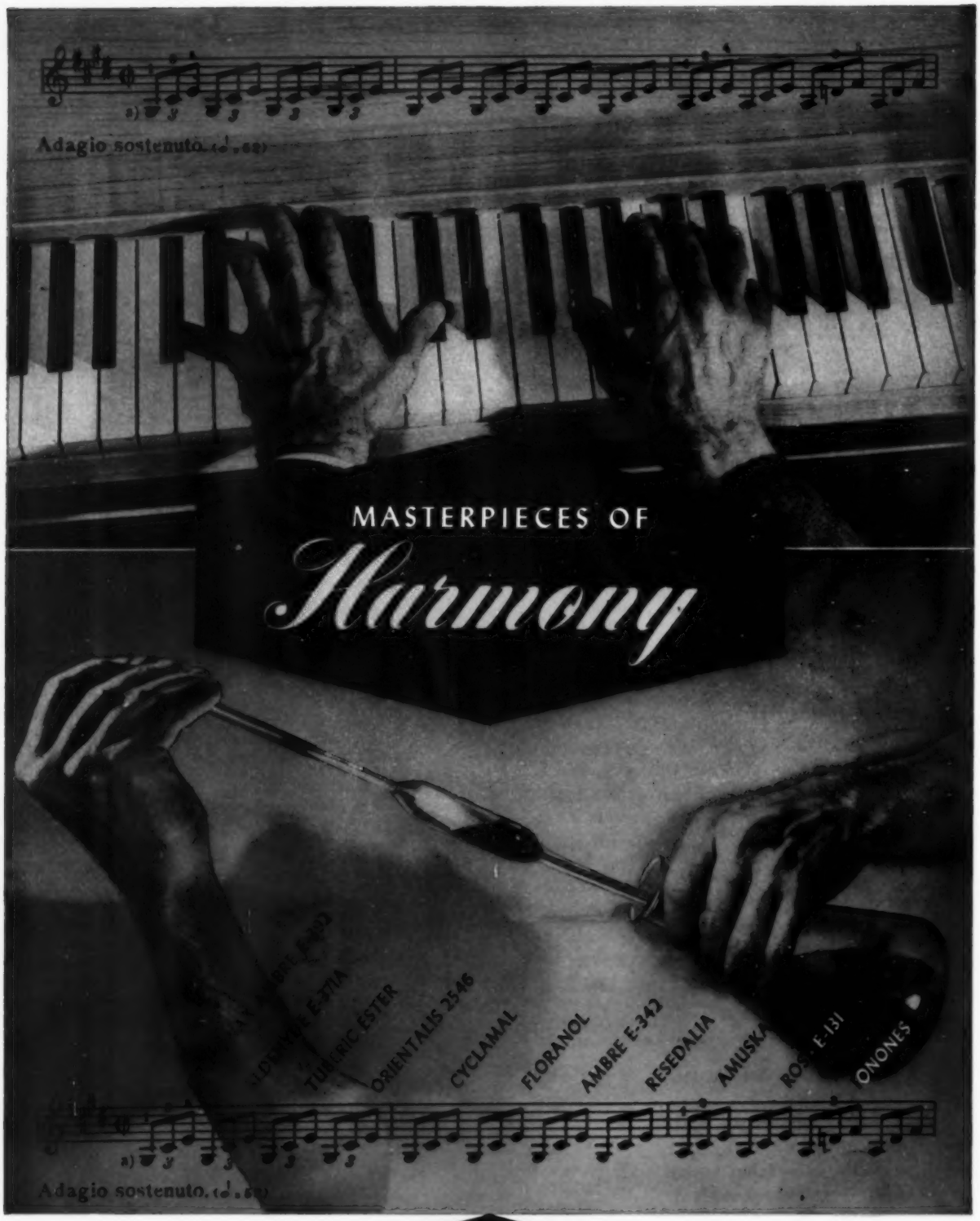
Jerome J. Rothschild of Philadelphia was recently named president of the Samuel S. Fels Fund, succeeding Samuel S. Fels, head of Fels & Co., Philadelphia, founder and president of the fund from its inception until his recent death.

Berthold A. Ludwig Dies

Berthold A. Ludwig, 79, president of National Aniline Division, Allied Chemical & Dye Corp., New York, for 20 years prior to his retirement on Oct. 1, 1950, died after a long illness on Oct. 8, at Westfield, N. J.

Although he was actively concerned with work on dyestuffs for over 60 years, 53 of which were with National Aniline and its predecessors, he is credited with contributions to the establishment and growth of the American synthetic detergent industry.

Travelling in Germany during the summer of 1929, he discovered a then obscure organic chemical, "Gardinol." He recognized its detergent possibilities and procured rights for its introduction in the U. S. Later, under his direction, National Aniline undertook a fundamental research program on petroleum-based synthetic detergents. From this work came the "Nacconols," alkyl aryl sulfonates, which today represent the most important class of detergents in the U. S.



A lilting tune, a delightful fragrance... each depends on the harmony of its *notes*. The purity and fineness of Verona aromatic chemicals will help you achieve harmony in your products and add a fresh *note* of distinction to them.

VERONA

AROMATICS DIVISION

VERONA CHEMICAL COMPANY

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H. J. Morrison Dies

Harley J. Morrison, 87, for many years chief chemist for Procter & Gamble Co., Cincinnati, died Oct. 7, in Cincinnati. He had been connected with P&G until he left 14 years ago to become a consulting chemist. He was a graduate of the Sheffield School of Yale University and a member of several scientific societies.

New P&G Lab Contract Let

Ferro Construction Co., Cincinnati, was recently awarded the general contract for a new research laboratory for Procter & Gamble Co., Cincinnati. The new building is being constructed 15 miles north of Cincinnati, near Venice, O., and is expected to cost around $1,500,000.

Buys Hardesty L.A. Plant

Vegetable Oil Products Co., Wilmington, recently bought the Los Angeles plant of W. C. Hardesty Co., New York.

Lever '49 Earnings Off

A drop of more than 50 percent in its earned surplus during 1949 was reported by Lever Brothers Co., New York, in its year-end balance sheet filed with the Massachusetts Commissioner of Corporations. At the time Lever made its headquarters in Cambridge, Mass. According to the statement, which is the only public record of the activities of the firm, earned surplus in 1949 was $13,254,020, as compared with $27,285,201 at the end of 1948, and $36,123,372 a year earlier. Inventory write-downs and development costs were believed to have contributed to the shrinkage of surplus. Inventories were reported to have amounted to $34,560,047 on Dec. 31, 1949, compared with $58,404,130 on the same date in the previous year. Holdings of U. S. securities and cash increased, but investments in other securities were more than halved. There was no change in outstanding notes payable.

Commenting on its operations Lever stated that raw material prices declined in the latter months of 1948 and fell sharply during 1949. Substantial charges for development of new synthetic detergents also were made against the American business.

Raymond F. Underwood, above, was recently appointed vice-president and general sales manager of the Pepsodent Division of Lever Brothers Co., New York, it was announced recently by Charles T. Lipscomb, Jr., president of the division. Mr. Underwood has been with Kawneer Co., Niles, Mich., since 1944 as director of sales.

Joins Long & Healey

Malcolm C. MacLellan, for the past seven years with Procter & Gamble Co., Cincinnati, recently joined the sales staff of Long & Healey, Inc., food brokers of Wilkes-Barre, Pa. He is in charge of the firm's retail merchandising operation.

Magnus in Civic Post

Percy C. Magnus, president of Magnus, Mabee & Reynard, Inc., New York, was recently appointed chairman of the membership committee of the Fifth Avenue Association, New York.

Luthy New Givaudan V. P.

Dr. Max Luthy was elected vice-president in charge of production and research of the Givaudan Corp., New York, and subsidiary organizations, at a regular meeting of the board held in New York, recently.

He was graduated as a chemical engineer from Federal Polytechnic Institute of Zurich in 1921 and did post graduate work while research assistant in the organic chemical laboratory of the Institute. After coming to the U. S., he spent seven years with Monsanto Chemical Co., St. Louis, before he joined the Givaudan organization in 1930. He has been a member of the board of directors since 1945.

Other officers include Dr. Eric C. Kunz, president; Ernest R. Durrer, executive vice-president; Francis N. Bangs, vice-president and secretary; and Harold F. Duffy, treasurer.

Snell Names Allen

Lyman H. Allen, Jr., formerly assistant chief design engineer in charge of chemical process design with the American Viscose Corp., Philadelphia, was recently appointed chief engineer of Foster D. Snell, Inc., New York. He is in charge of the engineering division, supervising design and construction of spray dryers, pilot plant operations, plant inspections, and by-product utilization.

N. E. Oil Chems. Meet

Various applications of the higher aliphatics were discussed by E. W. Segebrecht, Chem. Div., Armour & Co., New York, in his report on "Industrial Chemicals from Fats" at the first fall meeting of the Northeast Oil Chemist's Society. About 100 members and guests attended the meeting which was held October 10th at the Building Trades Employers Association, New York.

The next meeting is tentatively set for December 5th, and will feature a paper on edible fats and oils.

After reviewing the general reactions of fatty acids, and preparation of fatty acid derivatives and nitrogen derivatives, Mr. Segebrecht discussed applications of the surfactants with specific reference to class of compound used. In applications as detergents and emulsifiers, sodium salts are the common anionics used, while amine salts and alkylolamine acids represent the cationics and aliphatics, respectively. In the antiseptic group, amine salts and quaternary ammonium salts are the commonly used bactericides. Primary amine acetate is popular in the formulation of flotation agents. A more detailed discussion of the flotation agents was presented by J. A. Barr of Armour.

Some of the miscellaneous applications for nitrogen containing chemicals were listed as follows: amides as wax additives; nitriles for lubricants and repellents; alkyl isocyanates as toxicants; alkyl glyoxalidines as flotation agents and metal amine complexes as mold inhibitors.

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Detergent Jury Meets

A coroner's jury, which met in Chicago, Oct. 30 to determine the cause of the deaths of four newborn infants in a Chicago hospital in which detergents were involved, was adjourned until Nov. 17. At that time, it is expected laboratory reports on analyses of the detergent, and feeding formulas of the infants, will be presented.

The deaths took place at Grant Hospital, Chicago, early last month. First reports, issued a week after the deaths and illness of 13 other babies in the hospital, placed responsibility for the tragedy on a detergent found in the room where feeding bottles were washed. The manufacturer of the detergent, according to Dr. Herman N. Bundesen, president of the Chicago Board of Health, is withholding future deliveries until a warning label is attached. Neither the name of the product nor its manufacturer were revealed.

New C-P-P Manila Plant

Completion of a new $1,250,000 cosmetics plant in the Philippines is scheduled for the second quarter of 1951, it was announced recently by Colgate-Palmolive-Peet Co., Jersey City, N. J. The plant, which includes general offices and a factory, will be located on the Pasig River in San Pedro Makati, just outside Manila.

The plant will be completely modern, all machinery being imported from the United States. Available local construction materials will be utilized. The plant will manufacture all Colgate products now being distributed in the Philippines. It will have sufficient capacity to supply the import requirements of neighboring countries, it was reported.

New, restyled modern amber bottles with new easy-to-read labels, have been adopted for its line of perfuming materials and related compounds, it was announced recently by Dodge & Olcott, Inc., New York. Shipping cartons have also been redesigned for greater protection.

Left to right: E. M. Maxwell, D. G. Rogers and H. J. Daigneault, who have been named, respectively, president, executive vice-president and director of domestic sales of National Aniline Division, Allied Chemical & Dye Corp., New York. Mr. Maxwell succeeds the late B. A. Ludwig, who died shortly after his retirement after 53 years with the company. Both Mr. Maxwell and Mr. Rogers formerly were vice-presidents. H. J. Daigneault, for many years manager of the New England territory succeeds the new National Aniline president.

Freitag to Disney

Bernard B. Freitag, formerly sales manager of the soap division of Armour & Co., Chicago, was recently appointed manager of food licensing for the character merchandising division of Walt Disney Productions, Inc.

Evans Elects Kramer

Evans Chemetics, Inc., New York, recently announced the election of R. A. Kramer as vice-president in charge of sales. He has been sales manager of the corporation for the past nine years.

Guatemala Fetes Guenther

Dr. Ernest Guenther, vice president and technical director of Fritzsche Brothers, Inc., New York, by invitation of the Oficina Controladora de Aceites Esenciales, recently attended the opening celebration of the government controlled cooperative embracing all of the essential oil producing operations of Guatemala. Dr. Guenther was accompanied by Julian Lyon and Harold Sothern, the cooperative's American representatives.

Russo Joins Lueders Vets

George Lueders & Co., New York, recently announced that Joseph Russo has become the 45th member of their veterans organization. He was tendered a luncheon at the Drug and Chemical Club and received gifts from the company and employees.

Brown Gen. Chem. V.-P.

The appointment of Chester M. Brown as vice-president of General Chemical Division of Allied Chemical & Dye Corp., New York was announced recently. For the past 21 years

he has held a number of positions in the production and sales departments of the company. For the past three years he has been director of sales. He is a graduate in chemistry of the University of Missouri.

At the same time the company announced the retirement of F. Harris Nichols, vice-president. He had held the post for 24 years, having been associated with the firm and its predecessors for over 50 years. He is a nephew of the late Dr. William H. Nichols, who organized General Chemical Co., over half a century ago.

PINE OIL

SMELLS CLEAN...CLEANS CLEAN

Pleasantly fragrant pine oil soaps have always been a favorite with building superintendents and janitors because these soaps do a fast cleaning job on floors. A few spoonfuls of pine oil in a bucket of water make a solution that quickly penetrates and removes grease and grime without streaking.

Hercules® Pine Oils are easily mixed with other soap ingredients. They are stable, safe to handle, and do not stain. It will pay you to continue to rely on the economy and sales appeal of these natural aromatic detergents.

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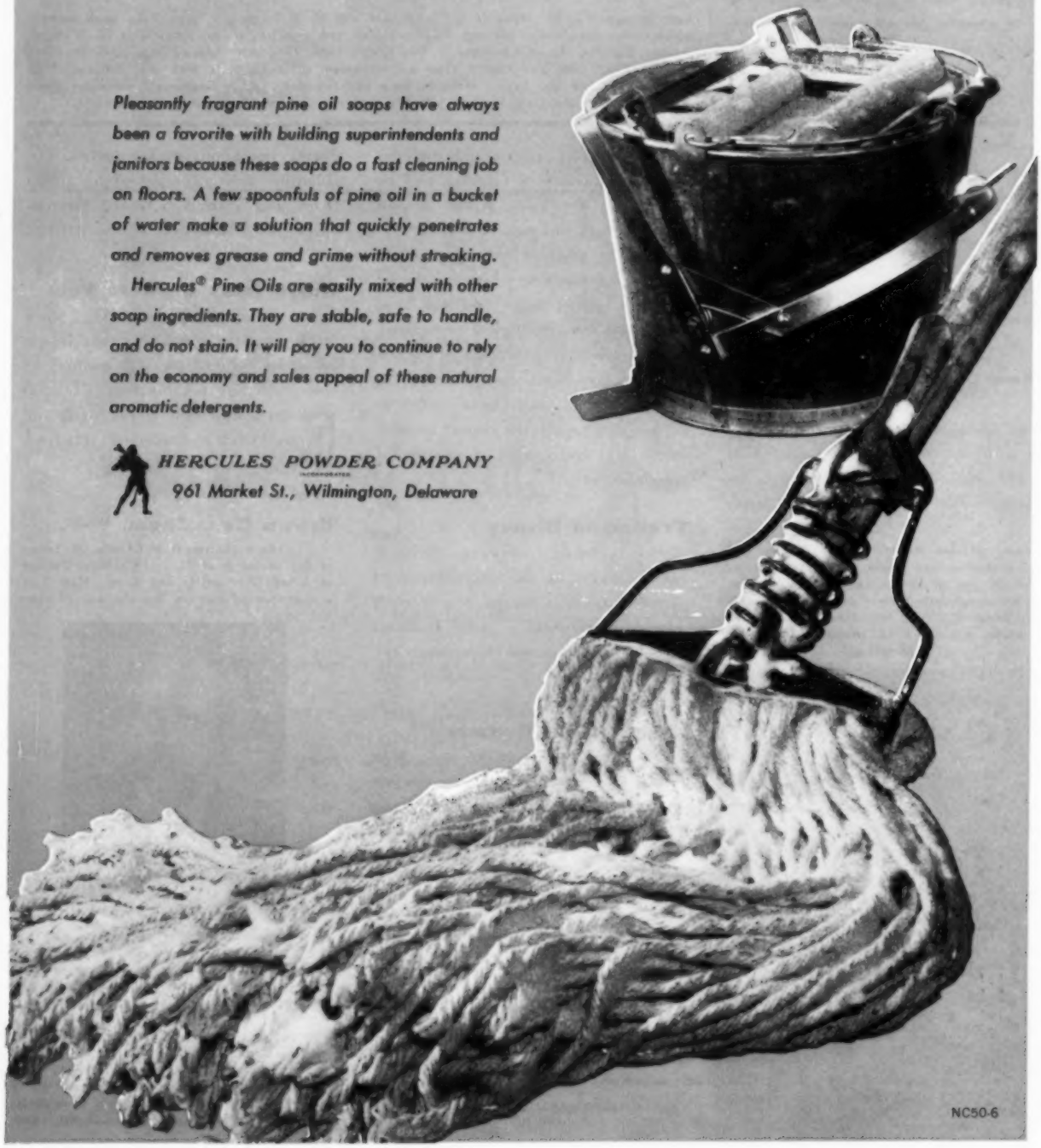

NC50-6

RAW MATERIAL MARKETS

As of November 2, 1950

FLUCTUATIONS in prices of fats and oils during recent days have been mainly upwards. An exception is noted in the case of tallow, which gained a quarter cent from 13¼ cents a pound for the fancy grade on approximately this day a month ago to 13½ cents about a week ago, and then retreated to the current quotation of 13¼ cents.

Coconut oil, as are most other vegetable oils, is bringing more money than it did on this date in October. Then it sold for 15¾ cents a pound, as compared with the present listing of 16½ cents. Copra, which is currently quoted at $215 a ton, crude basis, Pacific Coast, has advanced $20 over the price given in this space last month.

Although fat and oil prices have moved upward in recent weeks, there has been a tapering off in buying of the scare variety at both the consumer and industrial levels. Inflationary pressures and the continued high rate of industrial activity are reported to be having their effect in maintaining prices at levels that are double and more than they were six months ago.

Price changes on other vegetable oils reported in the past few days include that of corn oil, currently listed at 19¾ cents a pound for the crude, significantly higher than the price of 16½ cents on approximately this date in October. Higher, too, is soybean oil, which has moved up from the October quotation of 14 cents to the current listing for the crude of 16¼ cents a pound. Crude peanut oil at the currently showing price of 22 cents is bringing three cents a pound more than it did approximately a month ago. Lard is now priced at 13¼ cents, which is an increase of one-half cent a pound over the quotation early in October.

Prices of most fats and oils are now at or near the levels of September. A year ago, however, prices of most fats and oils were about one-half of what they are today. One notable exception is coconut oil, which is currently only three and one-half cents over the early November, 1949 price. Tallow on this date one year ago was listed at 6½ cents a pound.

Output of fats and oils from domestic materials, plus oil equivalent of exported soybeans, flaxseed and peanuts will be about as large in the year beginning Oct. 1, 1950 as a year earlier. While the 1950 cotton crop will be almost 40 percent under that of the previous year, and a moderate reduction is expected in the 1950-51 peanut crop, soybean production will increase by almost a quarter in the coming year. Moderate increases in lard, grease and tallow production are forecast for 1950, as a result of larger livestock slaughter than in 1949-50. Total production of fats and oils in the crop year beginning Oct. 1, 1950 will be about 11.9 billion pounds, according to a recent estimate of the U. S. Department of Agriculture. The 1950 total is about the same as in the previous year, but is larger than in any other year.

Increased production of palm oil in the Belgian Congo region of Africa is anticipated as a result of expanded plantings of oil palms. A record export season is expected for 1950. Last year 133,000 tons of palm oil were exported to all markets, which is almost double average annual 1935-39 exports of 72,000 tons.

Palm oil exports from Singapore dropped sharply in August from the July figure, it was reported recently. In August, Singapore was reported to have exported 2,972 tons of palm oil, worth $1,960,331, as against 3,281 tons valued at $2,084,-296 in the previous month. The United Kingdom took the major share of the oil. Estates in the Federation of Malaya produced 4,586 tons of palm oil in August, as compared with 4,367 tons in July.

Considerable interest is focused on carnauba wax, the new crop of which is now being gathered. Particularly significant is the fact that this is the first crop to be marketed without government regulation of minimum prices. Crop expectations for the coming year are about the same as last year—10,000 tons of all grades. Speculation as to price continues, but it is expected that current levels of approximately $1.09 for No. 1 yellow will obtain. Pre-war carnauba sold for around 30 cents a pound.

Prices of essential oils and aromatic chemicals in several cases moved higher during recent days. Notable among these is oil lavandin, now being quoted at $3.00 to $3.25. This advance is laid in part to the Korean situation, which stimulated early buying that has been continued beyond the normal period. Other oils on which prices rose recently are bergamot, eucalyptus, bois de roise. Eucalyptol also is higher as a result of the increase on eucalyptus.

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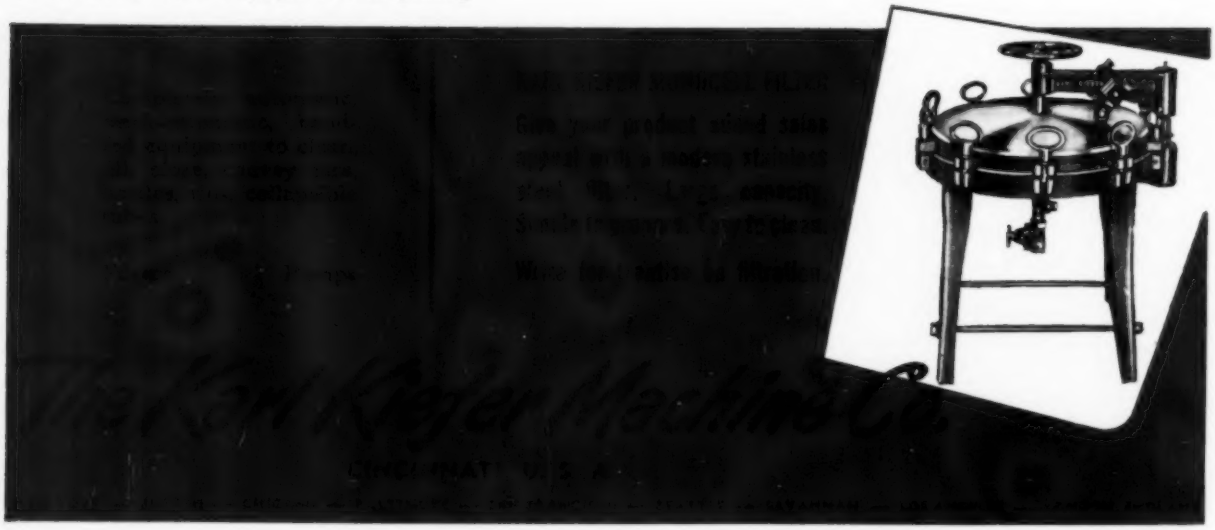

BIDS AND AWARDS

Wax Award to Franklin

Franklin Research Co., Philadelphia, received the award on an unspecified quantity of floor wax in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C., with a bid of $1.15 on item 52-W-467-25.

G.I. Soap Awards

The following awards were announced on ordinary issue soap in a recent opening for miscellaneous supplies by the Army Quartermaster Corps, New York: Gillam Soap Works, Fort Worth, Tex., 200,000 pounds, 9.98 cents to 10.25 cents a pound; Tennessee Soap Co., Memphis, 750,000 pounds, 10.65 cents a pound; Armour and Co., Chicago, 1,157,460 pounds, 10.69 cents a pound.

Air Force Polish Bids

Bids on polish in a recent opening for miscellaneous supplies by the Wright-Patterson Air Material Command, Dayton, O., were received from the following: Fine Organics, New York, 59.8 cents; Sherwin-Williams Co., Cleveland, $1.06; William Messer Corp., New York, $1.098; R. M. Hollingshead Corp., Camden, N. J., 59 cents; George Senn, Philadelphia, 64 cents, minimum quantity 900 gallons; J. Maltese & Son, Hempstead, N. Y., $1.20; Davies-Young Soap Co., Dayton, 69 cents.

VA Soap Awards

The following awards on soap were announced in connection with a recent opening for miscellaneous supplies by the Veterans' Admiinstration, Washington, D. C.:

Colgate-Palmolive-Peet Co., Jersey City, N. J., items 1, 7, 9, 10, 17, 18, 19, 25, 28, 31, 33, 37, 43, 48, 50, 60, 69, 70, 77, 79, 83, 84 thru 92, 94 thru 105, 107, 108, 109, 112, 113, 114, 116, 117, 118, 122 thru 126, 129 thru 134, 136 thru 141, 143, 145, 146, 148, 150, 152 thru 156, 160, 161, 163 thru 177, 179 thru 183, 186, 188, 189, 196, 212, 215, 221, 247, 264, 269, 286, 292, 293, 363, 409, 410, 411, 413, 415, 417, 418, 421, 422, 426, 432, 434, 435, 437, 438, 439, 442, 447, 448, 450, 453, 460, 461, 463, 466, 470, 471, 473, 480, 481, 487, 489, 494 thru 504, 509, 512, 512a. Tennessee Soap Co., Memphis, Tenn., items 2, 23, 36, 39, 65, 72, 78, 111, 115, 127, 128, 135, 159, 228, 240, 248, 252, 272, 288, 296. Procter & Gamble Distributing Co., Cincinnati, O., items 5, 21, 30, 35, 42, 44, 45, 49, 51, 54, 64, 67, 73, 74, 190, 197, 219, 226, 233, 234, 239, 249, 253, 256, 257, 260, 262, 267, 270, 275, 282, 290, 297, 298. Armour & Co., Chicago, items 6, 8, 13, 16, 20, 27, 29, 32, 34, 41, 52, 55, 56, 57, 66, 68, 75, 191, 194, 198, 199, 203, 207, 213, 222, 225, 230, 235, 242, 244, 251, 254, 263, 265, 277, 279, 289, 291, 294, 299. Swift & Co., Chicago, items 38, 40, 46, 53, 218, 261, 380 thru 396, 398 thru 408, 364 thru 379, 428 thru 431, 433, 436, 440, 441, 443 thru 446, 449, 451, 452, 454 thru 459, 462, 464, 465, 466a thru 469, 472, 474, 475, 476, 477, 478, 482 thru 486, 488, 489, 491, 492, 493. Lee Soap Co., Denver, Colo., items 22, 62, 204, 216, 220, 284. Gillam Soap Works, Ft. Worth, Tex., item 106. Pioneer Soap Co., San Francisco, items 80, 110, 119, 120, 121, 149, 232. Mt. Hood Soap Co., Portland, Ore., items 142, 147, 162, 184, 185. Nyleen Co., Kansas City, Mo., 1%-10, 20, item 273. General Soap Co., Chicago, 1%-10, items 301 thru 361. M. Werk Co., Cincinnati, O., 1%-20, items 3, 4, 11, 12, 14, 15, 24, 26, 47, 58, 59, 61, 63, 71, 192, 193, 195, 200, 201, 202, 205, 206, 208 thru 211, 214, 217, 223, 224, 227, 229, 231, 236, 237, 241, 243, 245, 246, 250, 255, 258, 259, 266, 268, 271, 274, 280, 281, 283, 285, 287, 295. No award items 93, 144, 151, 178, 278, 420, 479, 505, 510, 511.

Low Misc. FSS Bids

In recent openings for miscellaneous supplies by the Federal Supply Service, Washington, D. C., the following low bids were received: insecticide, item 1, Chafton Chemical Co., Richmond, Va., $1.50; item 2, Cole Laboratories, Long Island City, N. Y., 15 cents; item 3, Spray, Inc., East Orange, N. J., $1.28.

Paste and powder scouring soap, item 1, Skat Co., Hartford, Conn., 5.4 cents in 43 ounce containers; item 2, Imperial Products Co., Philadelphia, 6.1 cents.

Floor wax, Buckingham Wax Co., Long Island City, N. Y,. 11.4 cents.

Misc. Marine Corps Awards

The following awards have been announced on miscellaneous supplies in recent openings by the Marine Corps, Washington, D. C.: steam cleaning compound, Wyandotte Chemicals Corp., Wyandotte, Mich., 7.9 cents on item 1a; there was no award on item 1b. Grit hand soap, items 1a and b, Larkin Soap Co., Teaneck, N. J., 13.4 cents and 7.83 cents, respectively; item 1c, Flash Chemical Co., Cambridge, Mass., 8.2 cents; items 2a and b, Day and Frick Co., Philadelphia, 7.1 cents and 5.73 cents, respectively; item 3, Murro Chemical Co., New York, 3.3 cents. Naphthalene flakes, item 1a, Naphthalene Products Co., Tarrant, Ala., 10.95 cents; item 1b, Allied Chemical & Dye Corp., New York, 14.4 cents; items 2a, b and 3, R. M. Hollingshead Corp., Camden, N. J., 19.6 cents, 21.1 cents and 9.99 cents, respectively.

New Indian Caustic Plant

A new caustic soda and chlorine plant, designed and built by H. K. Ferguson Co., New York, is now in operation in Delhi, India, and has expanded that country's production of caustic soda by almost 20 percent. It is the only plant in northern India which produces chlorine, caustic soda and hydrochloric acid. The plant has an annual production capacity of 2100 tons of caustic soda.

Perfumers Hear Guenther

Dr. Ernest Guenther, vice-president and chief chemist of Fritzsche Brothers, Inc., New York, was the guest speaker at the Sept. 20 monthly dinner meeting of the American Society of Perfumers, held at the Advertising Club, New York. He spoke on "Citrus Oil Production in Various Parts of the World". Stereopticon slides and a new, short color motion picture were used to illustrate the lecture.

NYU Aromatics Course

An evening course bearing the title, "Aromatics: Olfactory Evaluation and Perfume Blending" is being given during the fall term, 1950-51, in the Division of General Education, New York University, by Samuel Klein, head of the New York perfuming materials firm bearing his name. The course, which began Sept. 25, runs through Jan. 15, with 15 sessions each of about one and three-quarters hours duration. The course is designed particularly for users of perfumes, salesmen, buyers, etc.

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An aromatic compound of the lavender type; exceeding the oil itself in odor strength, stability and general effectiveness. Equally well suited to be used alone or as a fortifying agent for lavender oil in the proportion of 1 part oil to 3 parts Lavandulol.

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THIS excellent geranium has been synthesized on the basis of extensive tests carried out with the principal components of geranium oil. Used in a 3 to 1 combination with the natural oil it strengthens and fortifies the outstanding characteristics of the latter, making its use very valuable in soaps. It can of course also be used alone. Judge it in the finished product.

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NEW TRADE MARKS

THE following trade-marks were published in the October issues of the *Official Gazette* of the United States Patent office in compliance with Section 6 of the Act of February 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, a fee of ten dollars must accompany each notice of opposition.

Cellowax — This for cleaning and polishing composition. Filed June 27, 1947 by Cellowax Co., Baltimore. Claims use since Jan. 1919.

The following trade marks are published in compliance with section 13 (a) of the Trade Mark Act of 1946. Notice of opposition must be filed within 30 days of publication and a fee of $25 must accompany each notice of opposition.

Tobacine — This for insecticide. Filed Feb. 1, 1949 by Anco Laboratories, Henderson, Ky. Claims use since Nov. 25, 1945.

Exelol — This for parasiticides. Filed Feb. 5, 1949 by California Spray-Chemical Corp., Wilmington, Del. Claims use since Sept. 1, 1940.

Trivex G-9 — This for insecticide. Filed Oct. 19, 1949 by Food Machinery and Chemical Corp., New York. Claims use since June 24, 1948.

Suffo — This for animal and insect repellents. Filed Dec. 6, 1949 by Compo Co., Los Angeles. Claims use since July 1, 1946.

Bovimide — This for antibacterial preparation. Filed Oct. 10, 1949 by Sharp & Dohme, Inc., Philadelphia, Pa. Claims use since Sept. 30, 1949.

Acrizane — This for germicidal preparation. Filed Nov. 9, 1949 by Abbott Laboratories, North Chicago, Ill. Claims use since Oct. 5, 1949.

Marlo — This for disinfectants. Filed Sept. 27, 1946 by Marlo Products Co., Cleveland. Claims use since Dec. 6, 1921.

Mirror Glaze—This for cleaners and polishes. Filed Dec. 15, 1947 by Mirror Bright Polish Co., Pasadena, Calif. Claims use since June 1, 1943.

Kay-Bee — This for chemical compound used with radiator coolants. Filed Nov. 15, 1948 by Kool-Block System, Inc., Columbus, Ohio. Claims use since Feb. 2, 1948.

Mercury — This for laundry bleaching compound. Filed Nov. 19, 1948 by Mercury Chemical Co., Corona, N. Y. Claims use since Nov. 1939.

Iso-Quin — This for liquid disinfectant. Filed Sept. 1, 1949 by Cramer Chemical Co., Gardner, Kans. Claims use since Mar. 1, 1949.

Armstrong — This for wallpaper and paint cleaner. Filed May 3, 1948 by Armstrong Paint & Varnish Works, Chicago. Claims use since 1854.

Pine-Tex — This for industrial floor cleaner. Filed June 3, 1948 by Cudahy Packing Co., Chicago. Claims use since April 21, 1941.

Hi-Speed — This for dairy cleaner. Filed July 22, 1948 by Diamond Alkali Co., Cleveland. Claims use since Nov. 16, 1942.

Cue — This for soap. Filed Nov. 3, 1948 by Colgate-Palmolive-Peet Co., Jersey City, N. J. Claims use since Oct. 4, 1948.

Assistex — This for dry cleaning soap compound. Filed Jan. 21, 1949 by Takamine Laboratory, Inc., Clifton, N. J. Claims use since Jan. 27, 1942.

Coin—This for detergent. Filed Mar. 3, 1949 by Armour and Co., Chicago, Ill. Claims use since Jan. 11, 1949.

Fazt — This for washing machine soap. Filed July 16, 1949 by Continental Soap Corp., Chicago. Claims use since Dec. 19, 1946.

Cedarine — This for furniture and floor wax. Filed July 26, 1947 by O-Cedar Corp., Chicago. Claims use since Jan. 1, 1887.

Kocolene — This for automobile polish. Filed July 9, 1948 by Kocolene Co., Seymour, Ind. Claims use since July 11, 1940.

Grip-Wax — This for floor wax. Filed June 30, 1949 by Scientific Supply Co., Denver. Claims use since Jan. 31, 1949.

Sup-R-Gloss — This for liquid floor wax. Filed July 21, 1949 by Pur-O-Zone Chemical Co., Lawrence, Kans. Claims use since Mar. 1, 1942.

Solaflor — This for shoe polish. Filed Aug. 27, 1949 by Hollywood Shoe Polish, Inc., Richmond Hill, N. Y. Claims use since Jan. 5, 1949.

5 in 1—This for laundry bleach. Filed May 4, 1948 by Hardin Chemical Co., Middletown, N. J. Claims use since Mar. 5, 1948.

Dresodor — This for deodorizer. Filed Oct. 23, 1948 by Sharp & Dohme, Inc., Philadelphia. Claims use since Oct. 15, 1948.

Hero — This for insecticides. Filed Feb. 3, 1949 by Bostwick Laboratories, Inc., Bridgeport, Conn. Claims use since Apr. 1, 1948.

Whiz — This for disinfectants. Filed Mar. 2, 1949 by R. M. Hollingshead Corp., Camden, N. J. Claims use since Sept. 1, 1905.

Perfectone — This for liquid wax polish. Filed May 17, 1948 by S. C. Johnson & Son, Inc., Racine, Wis. Claims use since Jan. 2, 1936.

Hilco Lustre — This for self-polishing liquid floor wax. Filed Dec. 22, 1948 by Hillyard Chemical Co., St. Joseph, Mo. Claims use since Nov. 1, 1932.

Diokem—This for dairy cleaner. Filed Sept. 11, 1948 by Diversey Corp., Chicago. Claims use since Aug. 30, 1948.

B. A. & Co. — This for insecticides and disinfectants. Filed Dec. 8, 1948 by B. Altman & Co., New York. Claims use since 1915.

Porotox — This for fungicides and insecticides. Filed Apr. 25, 1949 by Potomac Rose Society, Washington, D. C. Claims use since July 23, 1948.

Gro-All — This for insecticides. Filed Dec. 30, 1949 by Central Chemical Corp., Hagerstown, Md. Claims use since Dec. 29, 1919.

Powell Process—This for tooth powder. Filed July 21, 1948 by Doctor Powell's Laboratory, Avon Lake, O. Claims use since May 3, 1948.

Baseball Toothpaste — This for dentifrices. Filed Dec. 8, 1948 by Cosmos Pharmaceutical Corp., New York. Claims use since Dec. 3, 1948.

Football Toothpaste — This for dentifrices. Filed Dec. 8, 1948 by Cosmos Pharmaceutical Corp., New York. Claims use since Dec. 3, 1948.

Defenso — This for cleaning compound. Filed Oct. 6, 1948 by John Sexton & Co., Chicago. Claims use since Sept. 10, 1948.

Loofotes — This for cleaning and scouring pads. Filed Nov. 10, 1948 by Calfote Co , New York. Claims use since Nov. 1, 1948.

Soilmaster — This for dishwashing compound. Filed Jan. 7, 1949 by Economics Laboratory, Inc., St. Paul, Minn. Claims use since Oct. 21, 1948.

So Nu — This for household cleaner. Filed July 16, 1949 by Legion Chemical Co., Sacramento, Calif. Claims use since June 27, 1949.

Billos — This for liquid rug and upholstery cleaner. Filed Sept. 26, 1949 by Lasswell's Furniture Studio, Kansas City, Mo. Claims use since Sept. 16, 1949.

Swaco — This for white wall tire cleaner. Filed Sept. 29, 1949 by Swaco Products Corp., Hollis, N. Y. Claims use since Dec. 5, 1934.

Ambrocide — This for insecticide. Filed Mar. 17, 1949 by Chapman Chemical Co., Memphis. Claims use since Dec. 18, 1939.

(*Turn to Page* 139)

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Houchin Plodders and automatic cutters, used for all kind of soaps, reduce the time between mills and presses, substantially increasing hourly production. At the same time they enhance quality.

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PRODUCTION SECTION

Hints on Liquid Soap Making

In addition to containing at least 15 per cent fatty acids, a satisfactory liquid soap should meet certain standards pertaining to transparency, fluidity and color. Control of hydrolysis important in making a clear liquid soap.

THE fatty acid content of liquid soap usually ranges between 10 and 30 per cent. To be satisfactory as a toilet soap, the product should contain at least 15 per cent fatty acids. In addition, a satisfactory liquid soap should meet certain standards pertaining to transparency, fluidity and odor. Toward this end, only fats which will contribute to these requirements should be used as raw materials.

Linseed oil and palm kernel oil are not recommended for liquid soaps, since they tend to produce disagreeable odors which cannot be masked readily with perfumes. Arachide oils tend to yield soaps which are not clear, and coconut oil should only be used together with other oils, since it tends to produce soaps which are too fluid and somewhat irritating to the skin. Oils which are used to advantage include castor, soybean, olive and pure, clean olein. Castor oil should be used in mixture with other oils, because concentrations of castor oil above 30 per cent of the fat mixture tend to impair foaming properties.

Too fluid a soap may be improved by the addition of thickening agents such as potassium chloride and potassium acetate, which are added in amounts up to one or two percent. Small amounts of terpineol, added with a suitable perfume to the prepared soap, will also thicken the soap. A common additive to liquid soap is potassium carbonate, which improves detergency, imparts better foaming properties, is soluble in water, and has somewhat of a thickening effect. Skin irritation is observed only with potash additives of over .5 per cent.

One of the important factors in producing a clear liquid soap is the control of hydrolysis in soap. If hydrolysis occurs, the soap is likely to be cloudy and no filtration methods will be of any help. Use of fat mixtures consisting of low molecular oils and a sufficient fatty acids content lessen the danger of hydrolysis of highly aqueous soaps. A small addition of alcohol also decreases hydrolysis and makes filtration of the soap easier. Too large amounts of alcohol, however, are detrimental to the foaming capacity of the soap product.

Water used in the manufacture of liquid soap should be soft and clean. It should not contain dead or living bacteria, particularly if the soap is designed for use in cleaning open wounds, etc. Water softening units, such as Permutit or Filtrolit, provide a satisfactory means of preparing the water.

Liquid soap may be filtered after an ageing period of one or two weeks to allow for separation of the cloudiness. If the mass remains cloudy, one or two per cent kieselguhr or talcum may be added. Where filter aids are included in a liquid soap, means should be provided to allow adequate contact between the soap and additive. Liquid soap should be filtered in closed units to avoid dust contamination, or evaporation of perfume, alcohol, etc., and at low pressures, so as not to affect the transparency of the filtered soap. Liquid soap is perfumed before filtering, incorporating two to three per cent perfume, or three to five per cent for luxury quality products.

Liquid soap is prepared by one of two methods: (1) a soft transparent soap is dissolved in soft water, or (2) a neat soap is prepared by the semi-boiled process and dissolved in soft water. In the second method, the fats are heated to about 70°C. and the correct amount of 50° Bé potassium hydroxide is added with stirring. When the soap emulsifies and begins to thicken, it is allowed to stand. The temperature rises to 90 or 95°C. during saponification, and upon assuming a constant level, saponification is about complete, and the soap is well stirred. The soap is tested for free lye, which if present is neutralized with the correct amount of fatty acid, such as olein, castor oil, fatty acid, or turkey red oil. If there is no free potassium hydroxide, the soap is corrected with free lye. A 65 per cent soap product results by this method, and is diluted to suitable concentrations with soft water. The diluted soap, which contains free alkali, is neutralized with a suitable fatty acid, such as turkey red oil. *Alchimist* 4, No. 8, 196-199, No. 9, 217-221, (1950).

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Color Harmony in Soap Plant

COLOR harmony in interior decoration has a definite effect on human reaction. However, only since the late thirties has this relationship to and effect on production been realized. Color experts have assigned the term "psychromatics" to the study, which they describe as "the scientific application of light and color dynamics in direct relationship to the psychological effect on human beings." A practical experiment in accord with the theories of psychromatists, has been performed recently in the soap plant of Lever Bros. and Unilever Ltd., at Port Sunlight, England.

Some factors important for ideal seeing conditions, and to be considered in establishing a suitable working atmosphere, are as follows: (1) details should be as large as possible, (2) glare should be avoided, (3) the ratio of brightness of the concentrated field to the brightness of the immediate background should preferably be unity, or not greater than a ratio of 3:1; similarly, the ratio of brightness of the concentrated field to brightness of general surroundings should be between unity and 10:1, (4) the eyes of the individual should not be strained.

Considering the above factors, color experts have found that the use of white ceilings and walls is not desirable, since they have a depressing effect and tend to produce glare. Pastel shade and off-whites are to be preferred.

Machinery should be painted to harmonize with the surroundings. Moving parts, levers, switches and knobs controlling vital movements should be painted in contrasting obvious colors. It is advisable to follow the color scheme of red for danger, green for safety, and yellow for caution, with relation to moving parts, as well as for electric cables, pressure lines, obstacles, changes of floor level, etc. Still another factor, is a contrast in color between the moving material and stationary parts of the machine.

In the Lever, Port Sunlight plant, most of the automatic machinery is blue, to contrast with the red soap products and white soap bars mnaufactured. Since the wrapper of the white soap is blue, parts of the machine in the immediate vicinity are painted cream. The packaging machinery handling a green carton is done in a contrasting shade of green. Tops of the toilet soap packing tables are a soft green, while legs are colored a contrasting pink. The roof and walls of the building are a special yellow, roof trusses are green, while pulverizers and coolers are a dove gray. Color harmony is carried out also in the offices, women's canteen, etc. A particularly interesting feature of this development, is the fact that the conversion was carried out while full production was maintained in all departments. *Soap, Perf. & Cos.*, 23, No. 9, 929-931 (1950).

Water Content of Soap

Analysis of the water content of 16 soap samples by three methods: (1) heating in air at constant temp.; (2) vacuum drying at low temperature; and (3) Karl Fischer titration, indicate the results obtained by the vacuum method to be reasonably accurate and agreeing closely with the Fischer titration. The results by air heating are not accurate, but may be used for comparative purposes if applied carefully. The vacuum method consists of placing a weighed sample in a platinum crucible suspended from a silica spring in a vacuum of about 10^{-6} mm., at low temperatures, and running sorption-desorption isotherms or isobars. *Texas J. Sci.* 2, 209-212 (1950).

Synthetic Detergent Composition

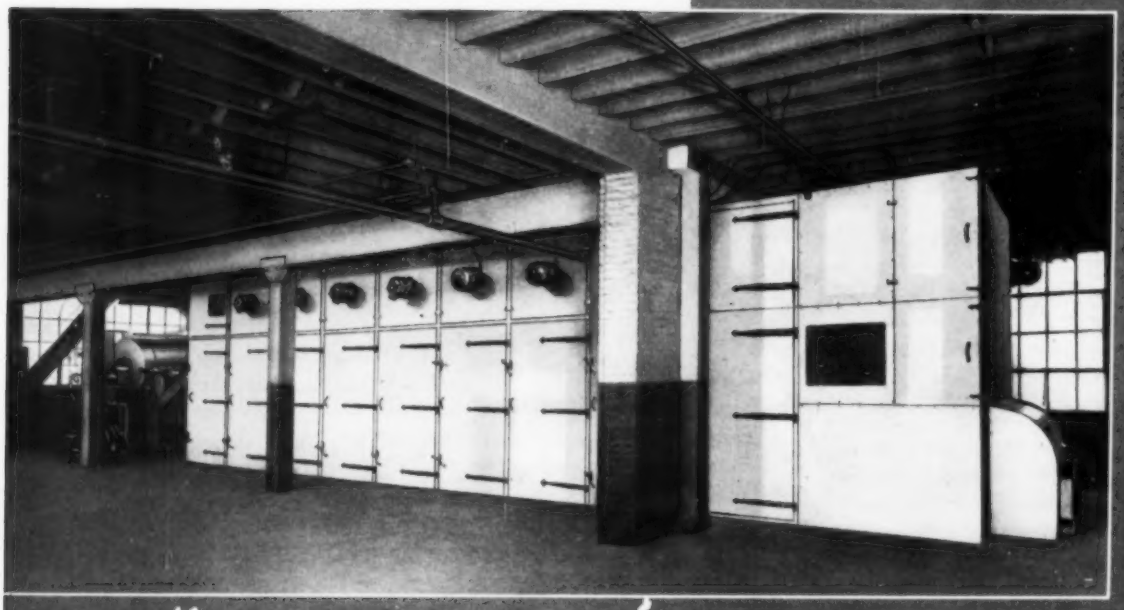
NEUTRAL synthetic detergents are used primarily in dishwashing and for laundering of fine fabrics. They may include sodium sulfate and small amounts of polyphosphates. The sulfate is an inert filler but is also valuable because of its electrolytic effect in solution. The built synthetic detergent is an all purpose product, incorporating carboxymethylcellulose, phosphates and soda, silicates, and other additives. In the laundering of cotton, for instance, the detergent includes an additive which will be adsorbed on the cotton fiber. Soaps differ from synthetic detergents in the greater readiness with which they adsorb on cotton. To improve this deficiency, on the part of the synthetics, carboxymethylcellulose is added, because it is a strong adsorbent on cotton.

Carboxymethylcellulose also assists in soil removal. It is used to best advantage in operations where the temperature of operation is between 120° and 170°F., and in operations where the soil is of a physical rather than greasy nature. Where possible, i.e., in soft water operations, sodium metasilicate may be used as a substitute for CMC.

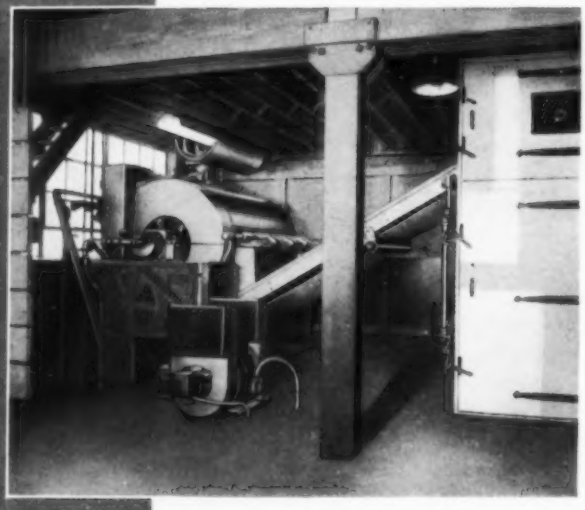
Sodium carbonate, phosphates or both are common detergent builders. Tetrasodium pyrophosphate and sodium tripolyphosphate are two of the more popular phosphates used. Both are good sequestering agents, and improve detergency in hard water. Because of their ability to contain water of crystallization, the phosphates tend to reduce the formation of lumps on storage, improve foaming properties, and stability of foam in detergent powders.

Silicates, particularly those in the water glass range are commonly incorporated in synthetics. They function as binding agents, decrease dustiness by rendering the particles less brittle, improve the detergent effect, and tend to inhibit corrosion where the product is used in contact with aluminum, etc. A. L. Waddams *Soap, Perf. & Cos.* 23, No. 10, 1019-1924 (1950).

THE *NEW* SOAP CHIP DRYER *by* SARGENT



Accurate FEED CONTROL — *Perfect* CHIP THICKNESS CONTROL



FOR INCREASED PRODUCTION

SARGENT'S New Soap Chip Dryer has flexible feed control and accurate chip thickness control—with three variable speed drives, for the rolls, for the feed apron, for the dryer conveyor. It has many other new features all designed to speed production at low operating cost.

The installation illustrated is at Standard Soap Co., Camden, N. J. Production is 2000 lbs. tallow base laundry soap chips per hour, with intake moisture of 34% and leaving moisture of 8%. Harder drying soap averages 1600 lbs. per hour. Chip thickness of 10/1000 to 12/1000 is consistent and even across full width of chilling roll and feed apron conveyor.

Please write for full particulars.

C. G. SARGENT'S SONS CORPORATION
Graniteville, Massachusetts, U.S.A.

SINCE 1852

Continuous Silica Mfg.

Silica glass, used in making sodium silicate, is produced continuously in the new redesigned furnaces. Soda ash and sand are charged through a screw feed, which scatters the material over the hot surface of the melt, resulting in immediate fusion. The glass flows over weirs into metal plates, cools, and the solid discs are handled as such, or dissolved into liquid glass. *Manuf. Chem.* 21, 9, 376 (1950).

Dirt Suspension Tests

Investigations of the suspending power of five soaps in aqueous solution, using different carbon soils, indicated that the maximum suspending power of the various soaps depends on the operating temperature selected. Sodium oleate was found to be independent of temperature at .1 per cent concentrations, sodium laurate and sodium myristate have lower suspending powers at higher temperatures, while that of sodium stearate and sodium palmitate increases at higher temperatures. The suspending power of a soap depends on the adsorption of the soap on the soil particles, and also on the adsorption on the fabric surface, imparting in each case a negative charge to the media, thereby causing electrostatic repulsion. *Can. J. Research* 28F, 213-225 (1950).

NEW BOOKS

A.S.T.M. Standards for 1949, *Part* 5. Published by the American Society for Testing Materials, Philadelphia. 1730 pages, 6 x 9 inches, cloth binding.

The A.S.T.M. Standards for soap, textiles, fuel, petroleum, aromatic hydrocarbons and water, compiled in part 5 of the Book of Standards, include the following standards and tentative specifications for 1949:

A tentative method for the resistance of textile fabrics and yarns to insect pests, and a tentative method for evaluating compounds designed to increase the resistance of fabrics and yarns to insect pests. The standard method for sampling and chemical analysis of alkaline detergents (D 501-49), and a total immersion corrosion test for water soluble aluminum cleaners (D930-49) are included also.

Condensed Chemical Dictionary, fourth edition, by Francis M. Turner et al. Published by Reinhold Publishing Corp., New York. 726 pages, 6 x 9 inches, cloth binding, price $10.00.

Terms relating to chemistry and chemical industries are compiled in this text, with information on properties and uses, and notes as to manufacture, when the compounds are not produced naturally. A large number of chemical specialties sold under trade names or brand marks are included in this fourth edition, bringing the total of items listed to about 23,000. Information on containers, shipping regulations and safety instructions, discussed in previous editions, is brought up to date.

Organic Synthesis, Volume 30, by Arthur C. Cope. Published by John Wiley & Sons, Inc., New York. 116 pages, 6 x 9 inches, cloth binding. Price $2.50.

Satisfactory methods for the preparation of 39 organic chemicals are compiled in this text, including full details of all steps in the procedure as well as the range of yields obtainable. The optimum conditions for preparation are presented, and the method for preparation or source of reactants are included also.

Unit Operations by George G. Brown, et al. Published by John Wiley & Sons, Inc., New York. 612 pages, 8½ x 11 inches. Price $7.50.

A complete analysis of unit operations is presented in this text, covering modern practices and equipment as well as a mathematical interpretation of the processes. The unit operations are grouped according to similarities in action or in method of calculation. By this approach, the student or engineer acquires an understanding of the relationships among different operations, providing a background for design of new plants for new processes.

The text is divided into four parts, in order of increasing difficulty. The first part concerns the properties, screening, size reduction and handling of solids. Part two covers the properties and classification of fluids, processes of flotation, sedimentation, transportation, filtration, centrifugation, pumping and compressing, and others. Part three deals with separation by ideal or equilibrium stages, and includes extraction operations of various combinations of gas, solid and liquid media, as well as calculations and design of vapor liquid transfer. Part four is presented with a critical attitude to develop the research point of view, and discusses energy and mass transfer rates.

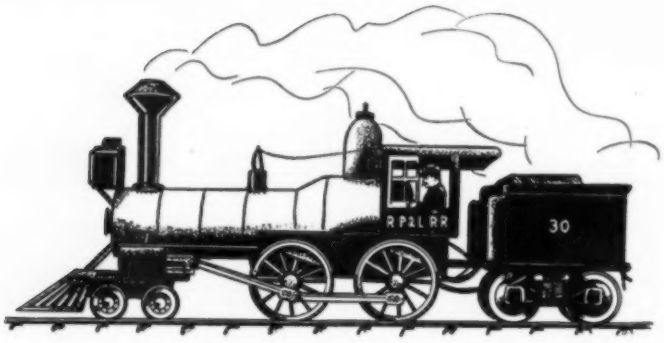
The text is well illustrated with 586 photographs, diagrams, graphs and charts. Sample problems are included throughout the book to illustrate mathematical treatment of the operations, and a group of practice problems are presented at the end of each chapter.

Organophosphorus Compounds by Gennady M. Kosolapoff. Published by John Wiley & Sons, Inc., New York. 376 pages, 6 x 9 inches, cloth binding. Price $7.50.

Physical and chemical properties of all known organophosphorus compounds are listed in this book, and the synthesis of all known classes of these compounds are included also. Discussions of biological activity, and toxicity of the compounds indicate applications of the tetraethyl pyrophosphates and the fluorophosphates in insect control.

Advanced Organic Chemistry by Reynold C. Fuson. Published by John Wiley & Sons, Inc., New York. 670 pages, 6 x 9 inches, price $8.00.

As indicated in the title, this text is designed for students who have had an introductory course in organic chemistry. It emphasizes the fundamental behavior patterns of organic compounds, considering those reactions particularly which are of interest to research workers, as indicated by current publications.



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Lard Oil
Neatsfoot Oil
Grease
Tallow
Lanolin

FATTY ACIDS

Red Oil
Tall Oil
Stearic Acid
Hydrogenated Fatty Acid
Cottonseed and Soybean Fatty Acids
Tallow

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Caustic Soda, Solid, Liquid, and Flake
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MAYPONS—Unique surface active agents; prolific foam; high detergency and emulsifying powders; suitable for cosmetic and industrial use.

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PRODUCTION CLINIC

By E. G. THOMSSEN, Ph.D.

CONFUSION appears to exist concerning synthetic detergents in the minds of a number of persons engaged in the manufacture of sanitary chemicals, judging by the increasing frequency of requests I have received lately for a clarification of recent developments in the detergent field. The rapid improvements that have taken place in this field have bewildered especially those who have not had the full advantage of chemical training. These readers of this column, for the most part, are interested in the end-use of detergents and how to exploit the new raw materials to improve their products. Many smaller manufacturers are included in this category. It is for their benefit that we will try to clarify the present status of detergents by considering this subject in as plain, every-day language as it is possible for us to write.

More progress has been made in the detergent field during the last fifteen years than in any similar period. Numerous new detergent chemicals have been introduced. Research on detergents is being carried on constantly and new principles to accomplish better and easier cleansing of practically all materials are being developed. There is a growing tendency to limit the functions of the finished detergent to specific uses rather than to design it as a general-purpose cleaner. With this advance, more or less unfamiliar terms are now being commonly used to describe these detergents and their mechanisms. The newer, better, easier to use, finished detergents are having such ready, ultimate consumer acceptance that sales volume in the detergent field has increased tremendously.

Current scientific literature dealing with detergents is published widely, and on many aspects of the subject. Much of it, however, comprises detergent theories, listing chemical composition, and describing methods of making the raw materials. While this is interesting to the chemist, much of it is beyond the grasp of the ordinary layman. Our advice

DR. THOMSSEN

to him is that he gain concise, plain, enlightening information from thorough reading of trade paper advertising and descriptive pamphlets distributed by detergent chemical manufacturers. Much of the information we present here is gleaned from these sources.

To answer correctly the requests for enlightenment that have come to hand, we are guided by the specific questions asked. The most frequent of these are: What are the advantages of these new raw materials over the older ones? How do they compare with the older, usually less expensive builders and cleansing chemicals? What is the meaning of the chemical terms given to these new items and their cleaning principles?

The detergent chemicals, old and new, fall into three classifications: 1.) ammonium, sodium and potassium salts; 2.) synthetic detergents, commonly called wetting agents; and 3.) organic compounds. In discussing these products we will attempt to define the newer chemical terms in plain, popular, non-technical language as we meet them.

The ammonium, sodium and potassium salts used as detergents comprise the largest number of detergent chemicals. Ammonium salts are used in limited quantities, ammonia or ammonia water being the most generally used. Ammonia water is also known as ammonium hydroxide and aqua ammonia. Since it is a solution of ammonia gas in water, it is not too stable, especially to heat, and any product containing it must be kept in a well-stoppered container, in a cool place. It possesses detergent, stain removing and bleaching properties. Ammonium carbonate is used to a limited extent for washing and defatting woolens and in so-called solid ammonia detergents. Ammonium chloride is another ammonia salt that is used in comparatively small quantities in washing powders.

Sodium and potassium salts, including caustic alkalis, as is well known, may be used interchangeably. The potassium salts, which are more expensive and more soluble, are employed mainly in liquid soaps to prevent formation of less soluble, clouding, soda soaps and to produce soft potash soaps. The potassium and sodium cleansers, with the exception of the caustic alkalis or hydroxides, consist mostly of the salts of weak acids, mainly inorganic acids. Thus, we have the salts of fatty, boric, carbonic, silicic and phosphoric acids.

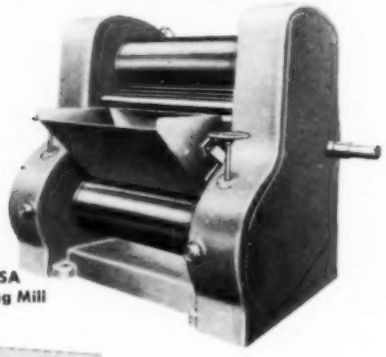
Soap is the most important detergent made from organic acids. It is the sodium or potassium salt of fatty acids. It should also be mentioned here that at least two salts of a strong acid: sulfuric, find application in the detergent field. These are sodium sulfate and sodium bisulfate. The former is a common ingredient in synthetic detergents in which it aids cleansing qualities. The latter is used exclusively as a urinal and toilet bowl cleaner.

The sodium and potassium compounds, that is hydroxides, carbonates, phosphates and silicates, are termed alkali cleaners. They cleanse through the formation of alkaline solutions when dissolved in water. The degree of alkalinity is measured by the pH of

LEHMANN SOAP FINISHING MACHINES

can broaden your profit margin!

Lehmann Bottom Dump Amalgamator 40G-B

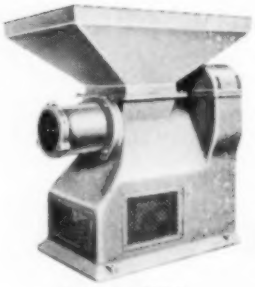


Lehmann 924-SA Four Roll Roughing Mill

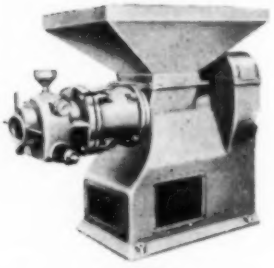
KEEP an eye on that all-too-thin black line—your profit margin. In the competitive markets for toilet soap and polished soap flakes you cannot readily widen the line by raising prices. However, you can often do things to it by reducing manufacturing costs. Manufacturers in many lines are resigned to the thought that increased profits must come, if at all, from further economies in production.

Look sharply at your soap finishing equipment—amalgamators, plodders, mills. Are there any weak sisters in the group? Maybe one of them should have been replaced long ago. Or could it be that you would gain by a complete new installation that would keep you up to, or a step ahead of competition for a long time to come?

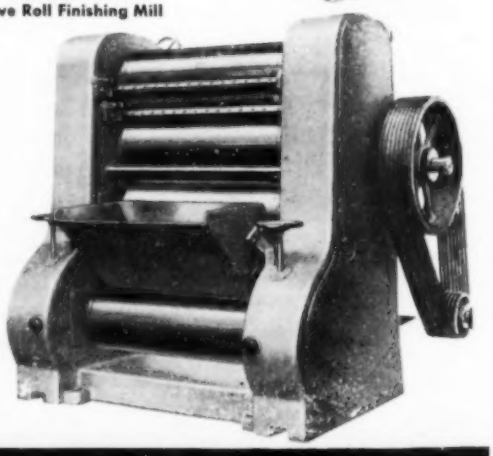
Here is where Lehmann engineering "know-how", based on a century of machinery-building experience, can help you. Consider the installation of a complete Lehmann unit of amalgamator, preliminary plodder, roughing mill, finishing mill and finishing plodder. There is an advantage in ordering all from one manufacturer, with coordination among all the machines and with one responsibility.



Lehmann 310-P Preliminary Plodder



Lehmann 310-F Finishing Plodder



Lehmann 912-SA Five Roll Finishing Mill

Send for descriptive bulletins of any or all machines shown here.

LEHMANN

J. M. LEHMANN COMPANY, Inc.

MAIN OFFICE AND FACTORY: 540 NEW YORK AVE., LYNDHURST, N. J.

their solutions. The higher the pH above 7, which is termed normal, the higher or stronger is the alkalinity. High pH solutions have more severe action on the skin, as well as on inert materials. Since the pH of soap averages about 10.2, we might say that alkalis between 7.5 and 10.5 are weak alkalis; those above 10.5 are strong alkalis. Tables for pH values are available from various reference sources or from makers of these chemicals.

In addition to their power to form detergent water solutions, these compounds often have other desirable properties that aid materially in their cleansing action. The detergent action of soap is a much discussed subject. Various theories, in which we are but slightly interested, are promoted to explain its unusual washing power. Among these explanations is the ability of soap to form both free fatty acids and alkalis upon hydrolysis or upon being dispersed in water, its property of being able to form adsorption compounds that attract soil; its emulsification power; the formation of colloidal electrolytes in water by its use; and by so-termed phase equilibria in soap systems. In spite of advances by other types of detergents, soap is still an excellent general detergent.

The cleansing action of the phosphates is of considerable interest. They are used as builders or synergists to aid or improve the detergent action of soap. Other applications include use as unadulterated cleaners and as builders for synthetic detergents. Phosphates, furthermore, possess the property of softening water efficiently. This they accomplish in the case of trisodium phosphate (TSP) by precipitating as sludges the calcium and magnesium salts causing hardness. Tetrasodium pyrophosphate (TSPP), sodium tripolyphosphate (STPP), sodium tetraphosphate and sodium hexametaphosphate are among those which sequester these water hardening salts, hence are known as sequestering agents. By "sequestering" is meant that they set apart the undesirable hard water ingredients; calcium, magnesium, iron, etc., as complex ion solutions. These are not reacted upon by soap. As is well known, these ingredients, if not removed, cause soap scum to form in hard water. The number of phosphates used for detergency has progressed as the more desirable ones have come on the market. They are useful not only in conjunction with soap and wetting agents but as mixtures for non-foaming cleansers like machine dishwashing compounds.

Detergent Phosphates

WE may list the more important detergent phosphates briefly. These are: 1.) trisodium phosphate (TSP), crystalline. This form is hydrated, has a pH of 12 in one per cent water solution. It precipitates the calcium and magnesium salts in hard water, has good detergent value particularly for greasy and oily soil. It is also available as the monohydrated powder. 2.) Tetrasodium pyrophosphate (TSPP), an anhydrous phosphate, available as powder or granules, increases the sudsing power of soap, prevents water spots when used in dishwashing compounds; is a good emulsifier for fats and oils, thus aiding their removal from soiled objects; and is a sequestering agent. Its pH is 9.8. 3.) Sodium polyphosphate, a mixture of sodium tetraphosphate or sodium hexametaphosphate, has a low pH: 7.2. It is a valuable addition to all cleaning and detergent compounds. Small quantities soften water even at higher temperatures. Sodium polyphosphate is a good sequestering agent for certain metallic ions like iron, copper and zinc. Recent investigations indicate that for hard water, machine dishwashing compounds, these polyphosphates are the most efficient phosphates for softening hard water. 4.) Sodium tripolyphosphate (STPP), with a pH of 9.8, is an excellent sequestering and water softening agent. When added to soap or synthetic detergents, its stability is a decided advantage. STPP increases the sudsing power of soap, especially in hard water. 5.) Potassium phosphates. These are higher priced than the corresponding sodium phosphates. They are used mainly in liquid soaps and detergents because of greater solubility when sodium phosphates may cause cloudiness, especially in liquid soaps.

(To be continued)

Efficient Sifter

SIFTING operations may be costly, dusty and troublesome in several ways. To avoid these drawbacks, Richmond Manufacturing Co., Lockport, N. Y., has built their "Gyro-Whip" and "Super Sifters." These pieces of equipment are designed to provide accurate separation of particles down to 0.0053 inch. They have no false bottoms or crevices to retain powders. Small floor space is required in proportion to the amount of materials screened. The machines are economical in horse power consumed and low in maintenance cost.

Powder Vacuum Filler

A POWDER filler designed to fill large containers of from 25 to 200 pounds in weight is offered by Pneumatic Scale Co., Quincy, Mass. It is known as the Model E "Vacuflow Powder Filler" and comes in two models, E-20 and E-30. The only difference between these is in the height of the working table. The fillers are dustproof, possess automatic shut-offs, are equipped with the necessary safety devices. All working parts are covered to protect them from wear. The vacuum principle of filling, which is employed by the operator, is entirely automatic.

Tear-Resistant Bag

CHASE BAG COMPANY, Chicago, is offering an all-crinkled multiwall bag that reduces very materially breakage and sifting. The new "Sharkraft" bag is claimed to provide greater elasticity, and a surer grip for easier handling and better stacking qualities. The bag is available in from two to five plies and may be printed in colors.

CMC Uses

IN CONSIDERING CMC (sodium carboxy-methyl cellulose) one thinks naturally of its usefulness in preventing soil redeposition by synthetic detergents. Hercules Powder Co., Wilmington, Del., is featuring other typical applications. These include its use as a binder in tableting operations; as a suspending agent; as a thickening agent; as an ingredient for hand protective creams and as an emulsion stabilizer. A technical bul-

DRYMET *

THE ECONOMICAL DETERGENT SILICATE

Cowles DRYMET, anhydrous sodium metasilicate, is the most highly concentrated form of sodium metasilicate available. It is more economical to use, on the basis of both Na_2O (alkalinity) and SiO_2 (silicate) than any other type of hydrated or anhydrous detergent silicate, either compounded or by itself. DRYMET contains no water of crystallization.

DRYSEQ *

THE ALL-PURPOSE DETERGENT SILICATE

Cowles DRYSEQ, anhydrous sodium sesquisilicate, is a medium pH alkaline cleaner which will do fast, dependable work at a low cost to the user. It is a white, free-flowing powder, quickly and completely soluble in hot or cold water—containing 56.75% Na_2O—making it an economical base material for compounding.

Cowles CHEMICALS

DRYORTH *

THE HEAVY-DUTY DETERGENT SILICATE

Cowles DRYORTH, anhydrous sodium orthosilicate, is a powerful, speedy, heavy-duty cleaner with valuable penetrating and wetting-out properties, reinforced dirt-removing power and unusual emulsifying action. It is an anhydrous, free-flowing powdered silicate containing not less than 60% Na_2O, which may also be used as an economical constituent of high pH cleaning compounds.

CRYSTAMET *

THE MEDIUM pH DETERGENT SILICATE

Cowles CRYSTAMET is a pure, perfectly white, free-flowing granular pentahydrate sodium metasilicate with the normal 42% water of crystallization. Suggested for compounding when it is desirable to lower the concentration of a finished product. Readily soluble—chemically stable—easy to handle. Can be used on medium pH jobs.

We'll be glad to send you our DRYMET File Folder containing complete technical information and suggested formulations.

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COWLES CHEMICAL COMPANY

HEAVY CHEMICALS DEPARTMENT • CLEVELAND 3, OHIO

letin on CMC is available upon request.

Revise Automatic Capper

Tite-Cap Machine Co., New York, announced recently a revision of its automatic screw capper. To simplify mounting of parts, reduce weight and eliminate vibration, the body and the base of the new "Tite-Cap" are now fabricated from sheet metal and welded together in one complete assembly, the company states.

Booklet on SCS

A booklet describing the new water soluble cellulosic, sodium cellulose sulfate, termed SCS was released recently by Tennessee Eastman Corp., Kingsport, Tenn. Information relating to physical properties, toxicity, stability, compatibility and suggested uses is given in the booklet, which is available on request. Possible uses of the material, which are similar to those of sodium carboxy methylcellulose, include use as an additive to detergents to improve soil redeposition.

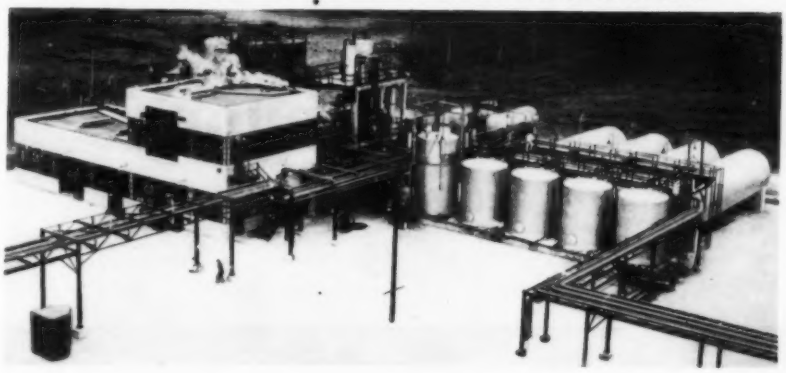
New Alrose Catalog

Alrose Chemical Co., Providence, recently issued a new catalog, "Surface Active Agents and Organic Chemical Specialties," which lists and describes a number of the firm's new products. Copies are available on request.

Soda Ash Booklet

A comprehensive 64-page illustrated manual, bearing the title, "Soda Ash," compiled by the technical staffs of Pittsburgh Plate Glass Company's Columbia Chemical Division and Southern Alkali Corp., was announced recently. The volume, available without charge to soda ash users and others whose work involves soda ash, gives a detailed history of soda ash. Chapters are devoted to soda ash production and uses, methods of manufacture, forms and grades, unloading and handling, and other pertinent data on the chemical. There is an extensive technical data section, including tables and charts, outlining the properties of soda ash and various methods of analysis. Copies of the manual may be had by writing the company at Fifth Avenue at Bellefield, Pittsburgh.

NEW FAT FRACTIONAL CRYSTALLIZATION PROCESS PLANT



A NEW process for separating various components of vegetable, marine, and animal oils by a special technique of chilling the materials in solvent to crystallize out in solid form the desired component has been developed by Texaco Development Corp., New York, it was announced recently by William P. Gee, vice-president. The new process finds its first commercial application in a multi-million dollar chemical plant now being completed near Chicago by Armour and Co.

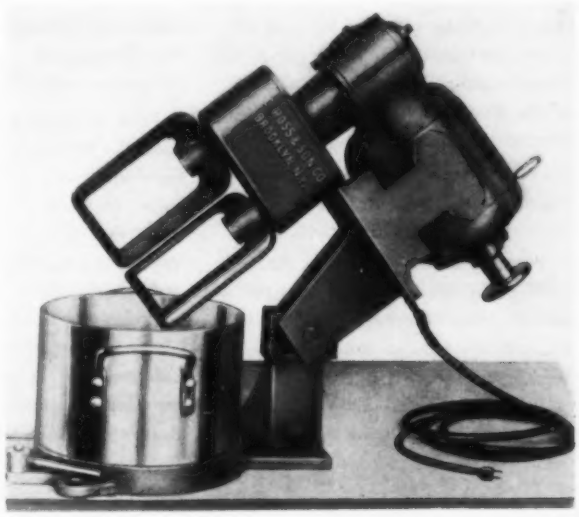
The plant, which is currently being placed in operation, will be used for the production of chemicals for deodorants, germicides, cosmetics, etc. Armour installed and will operate the crystallizer process under a joint licensing agreement with the Texaco Development Corp.

Mr. Gee said that the process is capable of producing fat components in practically pure form. The new process is known as the "Fatty Oil Fractional Crystallization Process." The high purity fractions separated are the commercially important saturated and unsaturated fatty acids such as stearic, oleic, linoleic, etc., as well as the glycerides.

This crystallization process is a valuable partner of the fractional distillation process which has long given high purity separation of the fatty compounds of different chain lengths. Now, separately, or in conjunction with the Fatty Oil Fractional Crystallization Process, a full range of high purity fatty oil components may be obtained commercially.

Packet Caustic Plant

The development of a packaged electrolytic plant for converting salt into caustic soda and chlorine in the soap plant was announced recently by Amroc, Inc., 280 Broadway, New York 7. The unit, called the "Amroc Packet Plant," consists of a highly developed mercury cell complete with denuder, a power rectifier, brine preparation tanks (arranged vertically), brine re-circulation equipment, caustic receiving tank, all mounted on a single foundation. No special housing is necessary. The 24-hour output of the unit is claimed to be not less than 225 pounds of 100 percent caustic soda and 200 pounds of chlorine.



New #130-EL Motor Driven Laboratory Change Can Mixer for small laboratory batches of from one quarter to one and one-half gallons of material developed recently by Charles Ross & Sons Co., Brooklyn. It is available in one-gallon or two-gallon capacity sizes. The direction of rotation can be reversed. Double motion stirrers revolve on their own axes and simultaneously around the circumference of the can. Cans are of pressed seamless sheet steel and tin-coated. Stirrers and cans are available in stainless steel.

Soap or Synthetic
Batch or Continuous

YOU NEED A GOOD CAUSTIC

You can make a better soap or synthetic detergent with Wyandotte Caustic Soda. And that's just as true of the new continuous saponification method as it is of full-boiling.

In fact, many of these new methods require a high-quality caustic or the catalyst will be contaminated.

Wyandotte makes caustic soda in sufficient grades to meet most specifications. Our "Mercury Cell" grade is exceptionally pure. Produced by the mercury cell process, it needs no further purification to meet even the highest specifications. This *natural* purity means that you need not depend upon the efficiency of a purification system for purity and uniformity.

Take advantage, too, of the economies in transportation, storage and handling costs that come when you select the *form* of Wyandotte Caustic Soda that is right for you. We make Wyandotte Caustic Soda in 7 forms: 50% liquid; 74% liquid; solid; standard flake; ¼" flake; crystal; powdered. Shipment can be made by truck, boxcar, tank car or water carrier. Write for detailed information on Wyandotte's grades and forms of caustic.

SODA ASH • CAUSTIC SODA
BICARBONATE OF SODA
CALCIUM CARBONATE • CALCIUM CHLORIDE
CHLORINE • HYDROGEN • DRY ICE
SYNTHETIC DETERGENTS • GLYCOLS
CARBOSE (Sodium CMC) • ETHYLENE DICHLORIDE
PROPYLENE DICHLORIDE
AROMATIC SULFONIC ACID DERIVATIVES
OTHER ORGANIC AND INORGANIC CHEMICALS

Wyandotte Chemicals Corporation
Wyandotte, Mich. • *Offices in Principal Cities*

Wyandotte
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PRODUCTS AND PROCESSES

Soaps with Rosin

Spray dried soaps can be prepared with from 15 to 20 per cent rosin, while other soaps can incorporate from three to 30 per cent. Rosin modified soaps have improved solubility, provide quick lasting suds, and have no undesirable odor characteristics or discoloration due to the rosin. *Chemical Products* 13, No. 8, 310, (1950).

Melamine Resin Starches

Melamine resins have been used satisfactorily in place of starch. It is claimed that fabrics so treated are crease resistant, crush resistant, have an improved luster, resilience and strength. The melamine resins are used in combination with polyvinyl butyral and alkylated products to supplant the starching effect. *Chem. Prod.* 13, No. 8, 311 (1950).

Nylon Bleaching

Nylon fabrics often acquire a yellow cast due to the high temperatures at which they are set. A small amount of chlorite in an acid medium will bleach the nylon to an excellent white without any damage to the goods. The chlorite can be used as a single step process, or may follow a zinc formaldehyde sulfoxylate treatment in a two step process, if the dye is particularly fast, or if a full white is required. *Can. Chem. & Process Industries* 34, No. 8, 640-642 (1950).

Dairy Cleaners

Tests on the effectiveness of detergents in cleaning milk-washing machines indicated that the bactericidal effect increased with the pH of the solution. Compounds tested included sodium hydroxide, sodium phosphate, combinations of sodium silicate, sodium phosphate and sodium carbonate used alone or incorporated with sodium alkylsulfate or sodium alkylarylsulfonate. A solution composed of 69 per cent sodium hydroxide, 29 per cent sodium phosphate, and two per cent alkylarylsulfonate was found to have the most effective bactericidal and cleansing properties. *Proc. 12th Intern. Dairy Congr.* 3, 294-301 (1949) through *Chem. Abstracts.*

CMC-Built Soaps

The presence of alkaline builders such as sodium carbonate, sodium metasilicate, modified soda, etc., in soap reduces the suspending power of the soap solutions, thereby reducing the ability of the soap to prevent redeposition of soil on the fabric. The addition of sodium carboxymethylcellulose to the built soaps compensates to a considerable degree for the reduced suspending power caused by the builder. Tests indicate maximum improvement with a concentration of .005 per cent CMC. Builders causing the greatest reduction of suspending power, showed the greatest improvement with the addition of CMC. C. H. Bayley, A. S. Weatherburn. *Textile Research Journal* 20, No. 7, 510-513 (1950).

Metal Soap Emulsifiers

Addition of bi- and tervalent compounds, such as sodium chloride, barium chloride, magnesium sulfate, aluminum sulfate, sodium nitrate, and sodium sulfate, to emulsions containing one per cent of monostearin in water-white-oil, and .5 per cent sodium stearate in water, resulted in a phase inversion of the emulsions and precipitation of some of the emulsifying agents. The bi- and tervalent soaps, i.e. barium, magnesium or aluminum stearate, precipitate in the aqueous phase, are soluble in the oil phase and act as emulsifiers promoting water-in-oil (W/O) emulsions. At the same time, the concentration of the sodium stearate, an oil-in-water (O/W) emulsifying agent, is decreased, resulting in phase inversion. H. G. Jellinek and A. Gordon. *J. Soc. Chem. Ind.* 69, No. 8, 235-237 **(1950).**

Detergents as Additives

Detergent additives have been used recently in the development of special high detergency or super duty oils for the lubrication of diesel engines. A preparation containing calcium cetyl phenate and alkyl phosphite has found satisfactory application with heavy duty oils. The phenate is the detergent component, and inhibiting properties are imparted by the phosphite. *Chem. Trade Journal* 127, No. 3302, 612 (1950).

Phenols in Soap Solution

Investigations of the bactericidal activity of phenols in aqueous solutions of soap indicate this activity to be a function of the concentration of the phenols within the micelles of the soap solution rather than the concentration of the phenol in the solution as a whole. Benzyl chlorophenol solubility in solutions of potassium laurate is constant up to a soap concentration of about .015 moles. At this point, solubility suddenly increases due to micellar formation. Phenol solubility increases in more concentrated laurate solutions until the soap concentration is about .06 moles, when the micelles presumably reach maximum size and are unable to further solubilize the benzyl chlorophenol. H. S. Bean and H. Berry *J. Pharm. and Pharmacology.* 2, No. 8, 484-490 (1950).

CMC Preparation

Readily soluble sodium carboxymethylcellulose is prepared by combining cellulose with sodium monochloracetate. Alkali cellulose, which has been prepared by soaking cellulose chips in sodium hydroxide for one hour, is pressed free of the excess caustic, and shredded and pressed daily for four or five days. It is then mixed with sodium monochloracetate in a grinder, and the whole passed alternately through a grinder and presser about three times. S. M. Brown and G. H. Thomson. *J. Soc. Chem. Ind.* 69, No. 8, 254 (1950).

Now! an ALL-METAL Liquid Soap Dispenser

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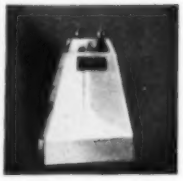

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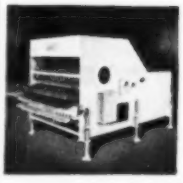

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SOAP PLANT OBSERVER

By John W. McCutcheon

WHILE on a trip to the coast to attend the annual fall meeting of the American Oil Chemists' Society in San Francisco, recently, the writer stopped frequently to investigate what detergents were being sold in the local stores. Before the trip ended, there were over 30 such products tucked away in the car's trunk compartment, plus numerous gift samples from plants visited. Not all products collected are synthetics; a few are soaps and others are water softeners, included chiefly because they are not available on the East coast or because they represented a product of special interest. Some of the products acquired are shown in the accompanying illustration.

A few main points of interest in this collection are as follows: Nationally advertised products invariably were found in every store from coast to coast. Representative of the synthetic group are: "Tide," "Fab," "Surf," "Vel," "Dreft," "Breeze," etc. To these must be added such soaps as "Rinso," "Oxydol," "Duz," etc. Besides these, probably a half a dozen additional brands could be found, which vary with the locality. Even these products had a widespread distribution and frequently were found in stores thousands of miles apart. The surprising thing is the fact that the entire market could pretty well be sampled in the compass of about three dozen type products.

Also of interest is the large number of water softeners available to the housewife in the midwest and on the west coast, as compared with the East. This can only be partially attributed to the degree of water hardness.

Liquid detergents were not in great evidence and were confined principally to "Joy," "Glim" and "Sparkle."

No odd shaped packages were noted. The most unusual package was

that for Procter & Gamble's granulated soap product "Dash." Of standard dimensions, the printing on the package runs across the long side.

The only measured soap pack observed was "Spin," of which a 10 ounce package of five envelopes sold for 25 cents. "Cheer," the new all-purpose cleanser of Procter & Gamble was purchased in the St. Joseph, Mo. area, where the product is presently being test marketed. "Cheer" retails for 28 cents in a 21 ounce package size. This product is understood to have been designed to be exceptionally mild on the skin and yet give detergency equivalent to heavy duty types.

Photo shows products acquired by Mr. McCutcheon on his trip.

The only non sudsing powdered product noted was "Fleet," although "All" also belongs in this class. The majority of packages had a perforated side opening, although two designed for mechanical dishwashing, "Calgonite" and "Electra-Sol" had built in spouts, and one, Armour's "Perk," a soap product, had perforations on one side and a spout on the other.

All Procter & Gamble packages have the Van Buren style closure on the bottom of the package to prevent leakage. "Tide" and "Cheer" have double lips, as does "Trend." A few packages were wrapped: "Calgonite," a mechanical dishwashing compound; "Calgon," a water softener, and "Magic Washer," a granulated soap product. The latter, incidentally, carried a spoon as a premium. "Bye" was an uninvited guest to this symposium and the writer cannot recall where it was purchased. It is a Canadian synthetic detergent product in powder form, made by Canada Packers, Limited and carries the slogan "Good bye washday blues."

The complete list of products is shown in the table which begins on the following page.

* * *

In connection with the above study on detergent products, the following 1950 market surveys are of interest, particularly data which show what is happening to leading brands which have been on the market for some time. To check the trend, figures on two categories: products for dishes and products for fine fabrics in two mid-west areas are considered.

Total percentages were divided into the categories, soap products and synthetic detergent products. Categories marked "don't know" or miscellaneous were classed as soap, so that the synthetic detergent usage would fall on the conservative side. The data are tabulated and shown on following page.

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Why cripple sales appeal with undesirable odors of ammonia and mineral terps? ODOR-MASQUE N gives your products a sales lift because it is pleasant smelling . . . completely neutralizes unpleasant odors.

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The Versenes* are powerful organic complexing agents that give you exacting chemical control of cations in solution. Chemically, they are the sodium salts of ethylene diamine tetra-acetic acid and other polyamino acids in liquid, powder or bead form. Exceptionally stable in hot or cold acid or alkaline solutions, their amazing complexing ability makes them invaluable agents in the manufacture of soda, potash or amine soaps and allied products.

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No matter what you make in the way of Liquid, Cake, Powder or Flake Soap, Dishwashing Compounds, Laundry Detergents, Synthetic Detergents, Floor Cleaning Compounds or Wax Removers . . . *Versene* can help you.

Here are some of the things the Versenes can do for you:

1. Completely and permanently soften hardest water *without* precipitation.
2. Increase speed of filtration.
3. Prevent oxidation, increase shelf life, preserve whiteness.
4. Prevent rancidity, chalking and change of color.
5. Give "built-in" hardwater resistance.
6. Increase detergency and foaming action.
7. Solubilize proteins and saponify fats and oils.
8. Provide synergistic action with quaternaries.
9. Retain stability and efficiency at high temperature and pH.
10. Safe on colors. Make whites whiter, other colors brighter.
11. Prevent metallic contamination.
12. Make soap products competitive with synthetics in hard water areas.

WHAT YOU CAN DO ABOUT THEM

It will pay you to investigate the Versenes* . . . Get these benefits. Give your product sales, process and price advantages over competition. Send at once for Technical Bulletin #2. Write for samples and prices. Make the Versenes* — "Industry's Most Modern Chemicals" — work for you.

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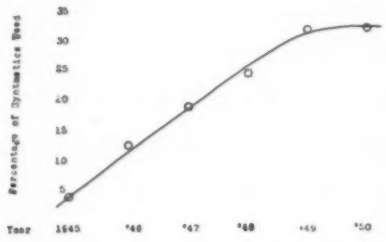
Berada & Page, Inc., Dallas and Houston, Texas

An examination of these data reveals a startling situation to those who think synthetics are going to expand indefinitely and finally displace soap entirely from the market. It is to be noted that in these two markets, at least, synthetics have almost reached the saturation level. This is seen better if the above data are combined as shown in table at right center.

The accompanying graph vividly illustrates the trend.



This must not be interpreted to mean that synthetics have reached maximum consumption at the present time, but it does give interesting food for thought.

Pennsalt Centennial Book

On its one hundredth anniversary, Pennsylvania Salt Manufacturing Co., Philadelphia, issued recently a 100-page book, "Prologue to Tomorrow." The book is a history of the company, covering its various ventures and expansion as it added new products to its manufacturing line.

New Gross Lab.

A. Gross & Co., New York, have recently completed a modern laboratory building at their main plant, in Newark, N. J.

The completely modern structure has been functionally designed and equipped with the best apparatus available for the control, development and technical servicing of fatty acids. Of the two floors, comprising nearly four thousand square feet, the first is devoted primarily to production control. The second floor is engaged in all phases of research work. An enlarged technical staff is headed by Raymond E. Wiech, technical director.

Soap for Dishes	*Columbus Market*				*Milwaukee Market*					
	1947	1948	1949	1950	1945	1946	1947	1948	1949	1950
Soaps	81.1	74.7	63.4	64.8	97.6	89.9	77.5	63.3	50.9	50.8
Synthetics	18.9	25.3	36.6	35.2	2.4	10.1	22.5	36.7	49.1	49.2

Soap for Fine Fabrics

Soaps	86.9	87.2	81.3	79.6	95.7	85.8	80.5	78.3	76.8	76.9
Synthetics	13.1	12.8	18.7	20.4	4.3	14.2	19.5	21.7	23.2	23.1

	1945	1946	1947	1948	1949	1950
Synthetics	3.4	12.1	18.5	24.1	31.9	32.0
Soap	96.6	87.9	81.5	75.9	68.1	68.0

	Name	*Manufacturer*	*Type*	*Net Wt.*	*Price*
1.	ALL*	Detergents Inc. Columbus, O.	Sudsless detergent	....	...
2.	BREEZE*	Lever Bros. Co. New York	Light duty detergent	10 oz.	...
3.	BYE	Canada Packers, Ltd.	Light duty detergent	....	...
4.	CHEER	Procter & Gamble Co. Cincinnati	Heavy duty detergent	21 oz.	28c
5.	CALGON	Calgon Inc. Pittsburgh	Water softener	19 oz.	36c
6.	CALGONITE	Calgon Inc. Pittsburgh	Mechanical dishwashing synthetic	32 oz.	39c
7.	CITRUS	Pacific Coast Co. San Diego, Calif.	Soap shreds	22 oz.	28c
8.	DASH	Procter & Gamble	Soap powder	28½ oz.	30c
9.	DOX	Morehouse Mustard & Supply Co. Oakland, Calif.	Water softener	16 oz.	14c
10.	DREFT*	Procter & Gamble	Light duty detergent	....	...
11.	EASE	Ease Inc. Burbank, Calif.	Detergent powder	16 oz.	32c
12.	ELECTRA SOL	Economics Laboratory Inc. St. Paul, Minn.	Dishwashing detergent	26 oz.	37c
13.	FAB	Colgate-Palmolive-Peet Co. Jersey City, N. J.	Heavy duty detergent	....	...
14.	FELSO	Fels & Co. Philadelphia	Detergent powder	18 oz.	29c
15.	FLEET	Fleet Products, Inc. Los Angeles	Sudless detergent powder	32 oz.	49c
16.	GLIM	B. T. Babbitt Inc. New York	Liquid dishwashing compound	....	...
17.	GRAN	Tennessee Soap Co. Memphis, Tenn.	Soap powder	30 oz.	...
18.	HYDRO-PURA	Schalk Chem. Co. Los Angeles	Detergent powder	28 oz.	26c
19.	IT	Defiance Products Co.	Cleaning powder	10 oz.	12c
20.	IVORY	Procter & Gamble	Flakes & powdered soap	....	...
21.	JOY	Procter & Gamble	Liquid dishwashing compound	6 oz.	36c
22.	KE-NU	Kenu Products Co. Los Angeles	Cleaning powder	32 oz.	29c

(*Turn to Page 90*)

Sell Moore's "400"
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When customers ask for a top quality, push-in dispenser at a low price, sell them Moore's No. 400. Its trouble-free operation and trim looks satisfy 100% . . . and it works steadily away for bigger soap sales. Guaranteed one year against mechanical defects. Non-leaking valve, non-sticking plunger, all vital parts chrome-plated brass. Sturdy frosted glass reservoir.

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3 *greater deodorization capacity.*

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NEW PATENTS

The information below is furnished by patent law offices of

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The data listed below is only a brief review of recently issued pertinent patents obtained by various U. S. Patent Office registered attorneys for manufacturers and/or inventors. Complete copies may be obtained direct from Lancaster, Allwine & Rommel by sending 50c for each copy desired. They will be pleased to give you free preliminary patent advice.

No. 2,511,695. Copyolymer Liquid Polish, patented by William B. Canfield, Montclair, N. J., assignor, by direct and mesne assignments, of one-half to Ellis Foster Co., a corporation of New Jersey, and one-half to Montclair Research Corp., a corporation of New Jersey. A liquid leather dressing is described, consisting of an aqueous dispersion containing carnauba wax, and an emulsion copolymer of diallyl maleate and a mixture of butyl methacrylate and methyl methacrylate, the butyl methacrylate constituting 50 per cent of the mixture of methacrylates, the diallyl maleate 25 per cent of the weight of the copolymer and the wax 17 per cent of the copolymer.

No. 2,519,062. Lotion Shampoo, patented by John J. Miskel, Brooklyn, N. Y., and Louis Rassner, North Bergen, N. J., assignors to Nopco Chemical Co., Harrison, N. J., a corporation of New Jersey. A lotion shampoo is described which comprises an opaque stable colloidal suspension of 1 part by weight of a hydrophobic saponifiable wax having a melting point above 110 degrees Fahrenheit in a liquid mixture of water and from 5 to 65 parts by weight of an anionic hydrophilic lathering detergent.

No. 2,512,675. Insect Repellent Mixtures Comprising a Hydrogenated Diphenyl and a Hydrogenated Naphthol, patented by Michel Pijoan and Leo A. Jachowski, Jr., United States Navy. An insect repellent mixture is described comprising essentially a predetermined quantity of a hydrogenated naphthol having at least one ring saturated with hydrogen and a preponderant amount of a hydrogenated diphenyl having at least one ring saturated with hydrogen.

No. 2,520,570. Method for Producing Detergent Blocks, patented by Robert J. Short, Wyoming, and George M. Woodruff, Cincinnati, Ohio, assignors to Procter & Gamble Co., Cincinnati, a corporation of Ohio. In the process of making a detergent bar containing a distinctive detergent insert, the patent covers the steps of confining a blank, solid, plastic detergent bar under yielding pressure, forcing into said bar a hollow insert former filled with a distinctive plastic insert detergent material in amount not exceeding the amount necessary for forming said insert, while holding said distinctive plastic detergent insert material in substantially stationary position with respect to said insert former during said forcing step, thereby displacing plastic detergent of the bar and forming a cavity therein, and thereafter withdrawing said insert former while simultaneously expelling the said insert material therefrom so

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Benzyl Benzoate	Nerolin	Phenyl Ethyl Alcohol
Benzophenone	Phenylacetic Acid	Yara Yara

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1010 Redolene . . . . . Distilled Oleic 8-10°C Titre

For especially light colored products, we recommend the use of our White Oleic Acid, which is in a color class by itself.

1020 Crystolene (White Oleic Acid) 6-8°C Titre

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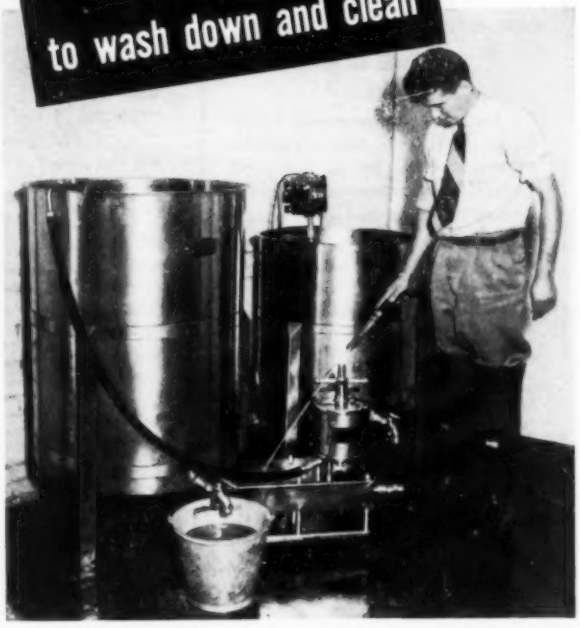

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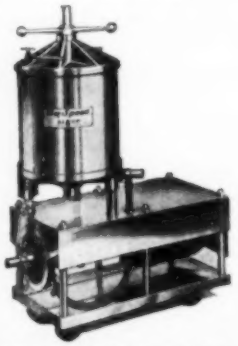

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that said insert material remains in the cavity of said bar.

No. 2,520,440. Partial Hydrogenation of Unsaturated Glyceride Oils in Solvents, patented by Judson H. Sanders, Cincinnati, Ohio, assignor to Procter and Gamble Co., Ivorydale, Ohio, a corporation of Ohio. The patent describes the continuous process of partially hydrogenating unsaturated vegetable oils having iodine values between about 90 and about 140 and containing combined linoleic acid which comprises causing said oil, dissolved in from 0.05 to 15.0 parts by weight of an inert volatile fat solvent and at a temperature between 60° C. and 125° C., to flow into, through, and out of a confined hydrogenation zone in the presence of a highly active nickel-containing catalyst and hydrogen gas at a partial pressure of 20 to 200 pounds per square inch, discontinuing the hydrogenation before the iodine value of said oil falls below 50, and separating the hydrogenated oil from the solvent, from the catalyst, and from any unconsumed hydrogen; whereby materially more than half of the polyethylenic acid radicals of said oil which are reduced by said treatment are converted to normal oleic acid radicals and materially less than half are converted to saturated and isooleic acid radicals.

No. 2,517,893. Stabilized Chlorohydrocarbon Cleaning Composition, patented by Arthur W. Larchar, Mendenhall, Pa., assignor to E. I. du Pont de Nemours & Co., Wilmington, Del., a corporation of Delaware. A cleaning composition stabilized against decomposition is described, consisting essentially of a volatile aliphatic chlorohydrocarbon solvent boiling below about 150° C. and from .02 per cent to 1 per cent, based on the weight of said volatile aliphatic chlorohydrocarbon solvent, of a five-membered heterocyclic compound boiling below 175° C., having as ring atoms, three carbon atoms, one nitrogen atom and one atom selected from the class consisting of oxygen and sulfur atoms and wherein any ring atom substituents other than hydrogen are alkyl groups containing less than four carbon atoms.

No. 2,517,895. Stabilized Chlorohydrocarbon Cleaning Composition, patented by Arthur W. Larchar, Mendenhall, Pa., assignor to E. I. du Pont de Nemours & Co., Wilmington, Del., a corporation of Delaware. The patent covers a cleaning composition stabilized against metal-induced decomposition consisting essentially of a volatile aliphatic chlorohydrocarbon solvent boiling below about 150° C. and from .02 per cent to 1 per cent, based on the weight of said volatile aliphatic chlorohydrocarbon solvent of a saturated aliphatic 1,3-diketone boiling below 175° C. and selected from the group consisting of acetylacetone, propionylacetone, butyrylacetone, isobutyrylacetone and 2,2-dimethyl acetylacetone.

No. 2,517,904. Self-Polishing Wax Composition, patented by Frank H. Lyons, Memphis, Tenn., assignor to E. L. Bruce Co., Memphis, Tenn., a corporation of Delaware. A self-polishing wax composition is patented comprising a solution in a volatile solvent of petroleum distillate naphtha having a substantial aromatic type hydrocarbon content and a kauri butanol number in the range of 30 to 90 containing, in quantity sufficient to form a continuous glossy film upon evaporation of the solvent, a highly chlorinated wax having a chlorine content in the range of 50 to 85 per cent and a material adapted to inhibit inherent tackiness of said chlorinated wax consisting essentially of a wax-compatible hard resin, the said resin having a melting point generally higher than 200° F.

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LIQUID SOAP SPECIALISTS

Soap Plant Observer

(*From Page 85*)

	Name	Manufacturer	Type	Net Wt.	Price
23.	KIRKMAN'S FLAKES	Colgate-Palmolive-Peet Co.	Flake soap	....	...
24.	LUX*	Lever Bros. Co.	Flake soap (Powder in Canada)	....	...
25.	MAGIC WASH	Iowa Soap Co. Burlington, Ia.	Soap powder	25 oz.	35c
26.	MERRILL'S	Los Angeles Soap Co. Los Angeles	Detergent powder	18 oz.	23c
27.	ORO	Oro Chemical Co. Los Angeles	Washing powder	20 oz.	23c
28.	ORO SUDS	Oro Chemical Co. Los Angeles	Bath salt	12 oz.	21c
29.	OXYDOL*	Procter & Gamble	Soap powder	....	...
30.	PERFEX	Perfex Mfg. Co. Omaha, Nebr.	Cleaning powder	10 oz.	22c
31.	PERK	Armour & Co. Chicago	Soap powder	22 oz.	31c
32.	RAIN DROPS	Bu-Tay Products Co. Los Angeles	Water softener	24 oz.	27c
33.	RINSO*	Lever Bros. Co.	Soap powder	....	...
34.	SCOTCH	Los Angeles Soap Co.	Soap powder	22 oz.	28c
35.	SHINA DISH	Perfex Mfg. Co.	Synthetic dishwashing powder	10 oz.	28c
36.	SPARKLE	Sparkle Corp. Phoenix, Ariz.	Liquid dishwashing compound	8 oz.	39c
37.	SPL	Climalene Co. Canton, O.	Detergent powder	10 oz.	25c
38.	SUPER SUDS	Colgate-Palmolive-Peet Co.	Soap powder	....	...
39.	SURF*	Lever Bros. Co.	Heavy duty detergent	....	...
40.	SWERL*	B. T. Babbitt, Inc.	Light duty detergent	....	...
41.	TAY	Turco Products, Inc. Los Angeles	Detergent powder	28 oz.	25c
42.	TIDE*	Procter & Gamble Co.	Heavy duty detergent	....	...
43.	TREND	Purex Corp. South Gate, Calif.	Light duty detergent	11 oz.	...
44.	VEL*	Colgate-Palmolive-Peet Co.	Light duty detergent	....	...
45.	WAVE	Baxter Mfg. Co. Dubuque, Ia.	Synthetic dishwashing detergent	14 oz.	35c
46.	WHITE KING	Los Angeles Soap Co.	Soap powder	22 oz.	29c
47.	WHITE MAGIC	Newport Soap Co. Oakland, Calif.	Soap powder	23 oz.	...

* Nationally distributed products; not sampled.

New Cleaners

(*From Page 39*)

accident preventing procedures to employees was outlined by John R. Bollman, central safety engineer, industrial relations division, at Ivorydale, O. Shown by Mr. Bollman during his talk was one strip film on "Basic Safe Practices in the Laboratory," and a slide film on "Packing Department Safety." During 1949, he stated, 92 per cent of the accidents in P. & G. plants were due to the human factor, where people didn't "play safe." This, he said, is the basis of the company's efforts to educate employees so that they will recognize hazards embodied in their daily tasks and know what to do to avoid disabling injuries.

In the election of officers of the chemical section for 1950-51, Mr. Bollman was selected as vice chairman of the group. R. H. Albisser, Merck & Co., Rahway, N. J., was elected general chairman.

Presentation of awards in the chemical section's annual accident reduction contest was missing from the Chicago conference program, due to rearranging of all Safety Council contests on a calendar basis. M. A. Snell, Hartford Accident & Indemnity Co., Hartford, Conn., chairman of the chemical section contest, announced that awards will be mailed to winners soon after close of the current contest, Dec. 31.

Looking Back

(*From Page 46*)

He was asked one final question: "Would you like to make any predictions as to what is going to happen in the soap industry?"

"No," he replied instantly. "It's hard enough to keep up with the changes that are taking place, let alone trying to guess what is going to happen. I just want to say that the soap industry has been good to me, and I've tried to be good to it. It's a good industry with a lot of fine people in it. Year after year, it has made better products and given the consumer more and more in soap value for his dollar."

CD&CA Hears McLain

Harold O. McLain, proprietor of Railways Ice Co., Chicago, and a past president of the Executives' Club of Chicago, was the guest speaker at the Sept. 28th meeting of the Chicago Drug and Chemical Association, held at the Palmer House. The annual stag party of the association will be held at the Palmer House, Dec. 19.

To Wyandotte Coast Post

Paul R. Parisseau was recently appointed Los Angeles general sales manager of Wyandotte Chemical Corp., Wyandotte, Mich. He is responsible for all sales in the Los Angeles area, including special product, special account and government sales developed by the company's Los Angeles plant. Thomas DeTemple continues as district manager.

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1035	195/200	2 max.	2 to 2½	Nil	Nil
23	180/185	6 max.	6 max.	20 - 25	55 - 65
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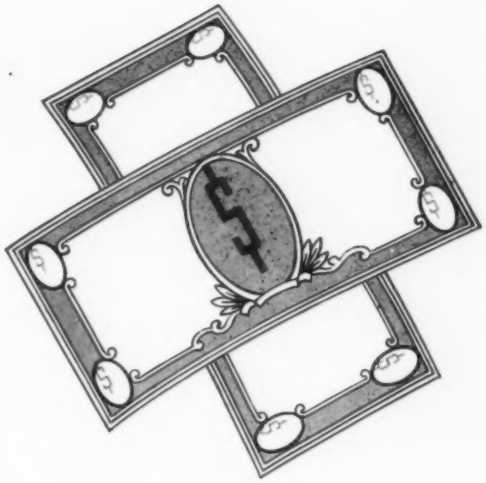

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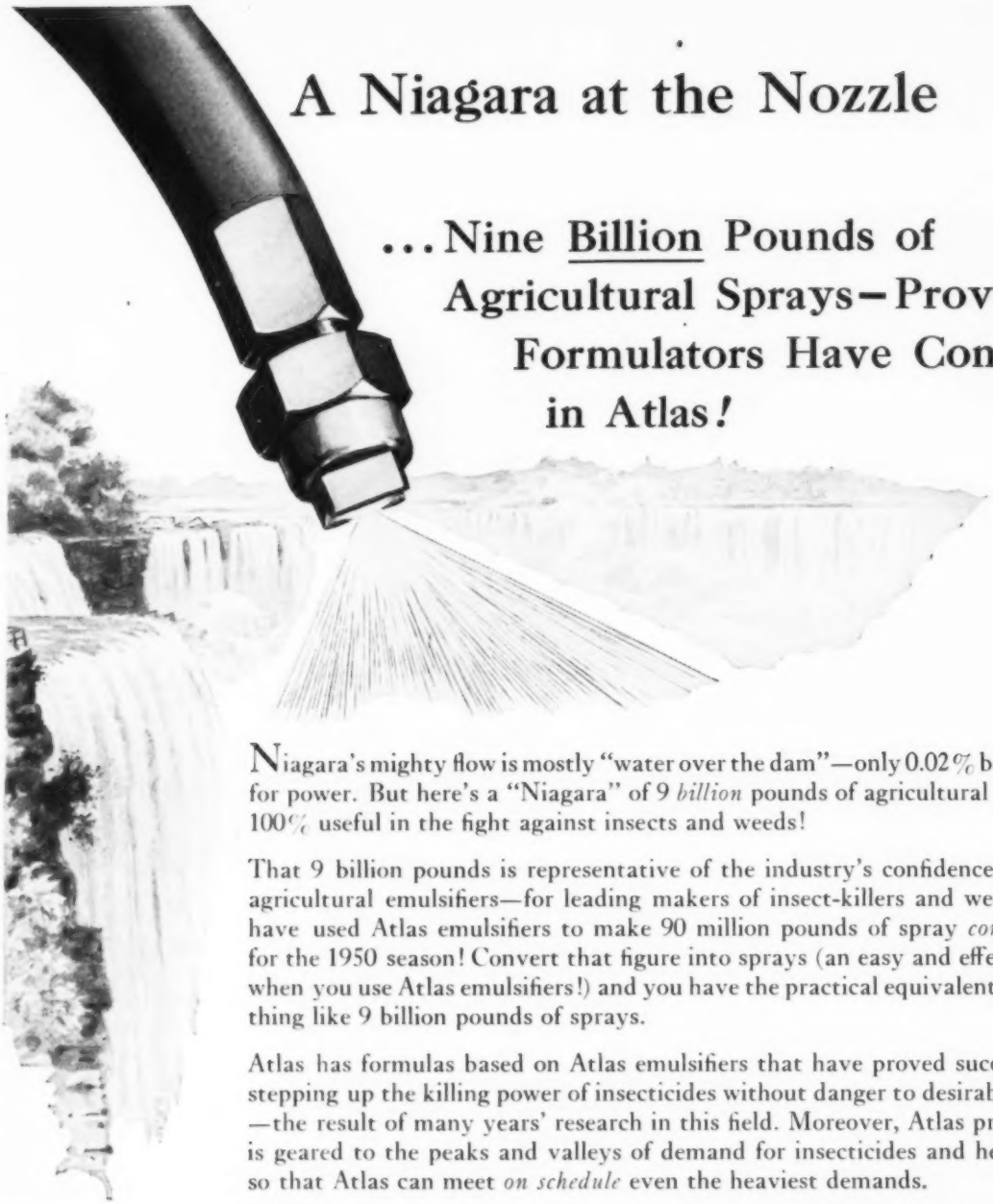

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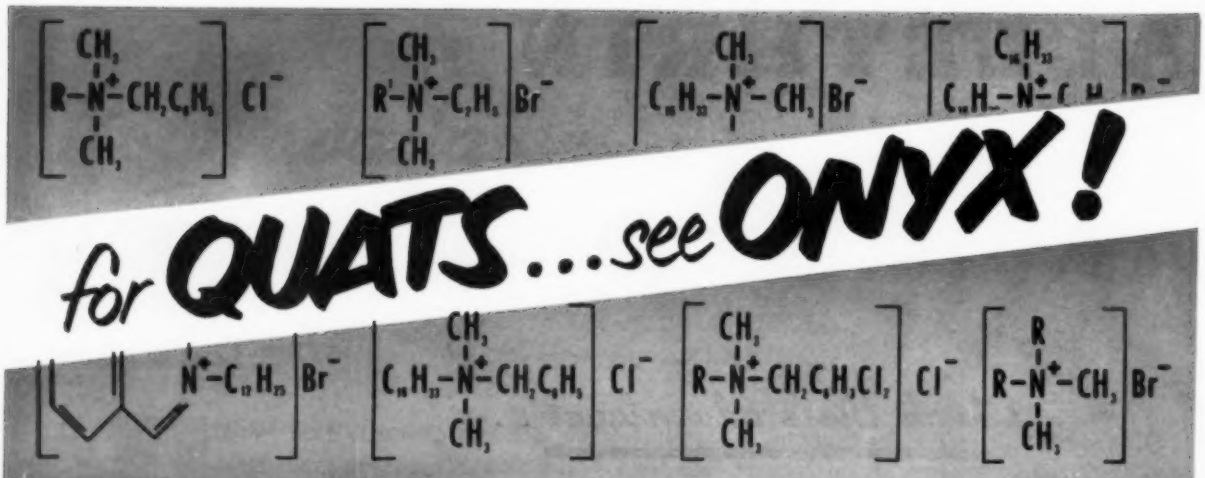

for QUATS...see ONYX!

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All Onyx Quaternary Ammonium Compounds now in extensive industrial use have been tested for toxicity—not only on a lethal dose basis, but on a long term chronic toxicity basis. All these tests have shown these compounds to be completely non-toxic at all recommended use-dilutions. Tests have also been made which prove that these compounds do not irritate or sensitize the skin at use-dilutions.

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Onyx Quaternaries are sold in concentrate form only to producers of compounds for sale to the ultimate consumer. They are not sold direct to the users.

Onyx has been a leading factor in the production of quaternary ammonium compounds since the days when these cationic germicides were first commercially used. Today we produce a greater number of these compounds than any other manufacturer.

Some of the quaternaries we make are of interest to research laboratories and development departments searching for specific germicidal, algaecidal and fungicidal or deodorizing action. Others are available in virtually unlimited quantities, and have wide industrial application. Here are some of the latter group:

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Alkyl dimethyl benzyl ammonium chloride. The most widely used cationic germicide at the present time. Sold in 50% aqueous solution to disinfectant and germicide manufacturers for dilution and/or incorporation in their own products. The safest and most effective bactericide and bacteriostatic agent available today. Also acts as a powerful deodorant.

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Lauryl isoquinolinium bromide. Sold in 20% aqueous solution. Isothan Q15 is an excellent fungicide. It is widely used in the formulation of compounds for use in the control of athlete's foot and dandruff. It is also used for various other fungicidal purposes.

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Alkenyl dimethyl ethyl ammonium bromide. Sold as a 75% concentrate in isopropanol or propylene glycol. Onyxide is the most effective algaecide now available. It is in very wide use for the control of algae in swimming pools, cooling water, air-conditioning systems and similar applications.

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If you are interested in any one of these particular "quats," please ask for data. Onyx BTC is covered in a very thorough technical handbook which also outlines the major characteristics of the quaternaries.

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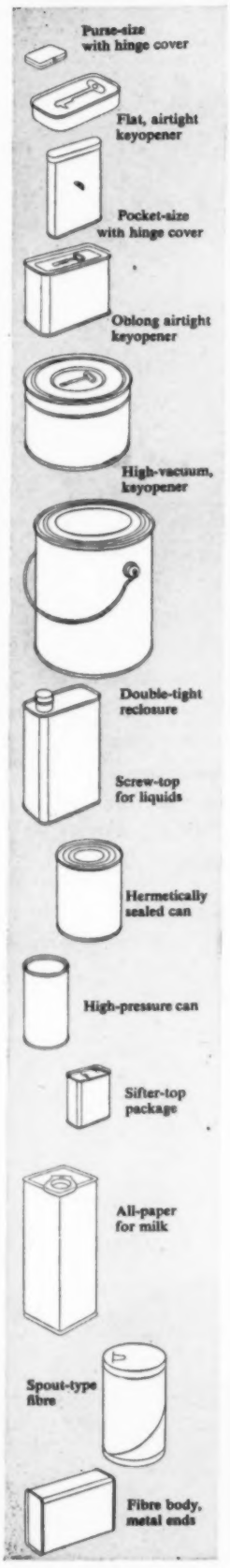
WHICH PACKAGE SUITS YOUR PRODUCT?



Attached cover, smooth edges, snaps closed with bead lock giving rigidity to top surface with no distortion. Opens, closes with one hand. Can be coated inside, body, top and bottom if desired.
Contents readily accessible as top swings back and provides completely open container. Top aperture is wide enough to permit user to reach in with fingers and pick out contents. Comes in four sizes.

If you are packaging small items used in small quantities...

This container is most familiar as the package for short lengths of adhesive tape used for minor cuts and bruises.

Notice that the hinged snap-top opens easily, protects the contents from dust . . . that the package makes a nice display and keeps clean after handling.

Perhaps you are packaging cold tablets, salt tablets, rubber bands, nails, nuts, bolts, playing cards, king-size cigarettes, whole spices, notions, buttons, *or some other small item used in small quantities.*

Might it not be a good idea for you and us to sit down together and see how our know-how might help you?

Pioneers, we . . .

Since 1901, Canco has been creating new and more effective packages. There is hardly a major development in the packaging field that this keen organization has not pioneered.

We can advise you on how to build sales, cut costs, improve processes, and on filling and closing procedures. We stand ready to serve you promptly in production-line emergencies. *Call Canco first!*

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Deluxe
*S-D
SANITIZING CLEANER
*Sanitizing-Deodorizing

The *all-around, neutral, self-rinsing cleaner* . . . for all general cleaning, sanitizing and deodorizing in the home, office or plant. Non-injurious to the skin, effective and safe to use.

Deluxe *S-D Cleaner will be popular with the trade because it aids in preventing the spread of disease germs, is easy to apply, odorless, attractive in color (opalescent), economical and safe. Absorbs obnoxious odors without leaving a masking odor.

At last here's a cleaner that gains good results on ALL types of floors, INCLUDING RUBBER AND ASPHALT TILE!

Deluxe *S-D Cleaner can be used *anywhere* and *any time* because it is *effective even in cold or hard water.* This feature is a great plus in sales appeal. For more details about Deluxe *S-D Cleaner write us immediately.

Phenol coefficient 2, FDA method.

SEND FOR LATEST PRICE LIST CONTAINING A WIDELY DIVERSIFIED LINE OF BAIRD & McGUIRE CERTIFIED PRODUCTS.

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CREATORS AND COMPOUNDERS OF THE BEST IN CLEANERS AND DISINFECTANTS FOR OVER 41 YEARS

SANITARY PRODUCTS
A SECTION OF SOAP

WAR-TIME fly-by-nights in the chemical, soap, cleaner, insecticide, and allied fields are with us again. Like mushrooms, they have popped up during the past six months. As in the years gone by, they are in for a quick turn and a quick dollar. Just what they add to the so-called defense effort, except confusion, is difficult to determine. In the present excitement of rearming and stockpiling, they are in their best element because the war contract has always been their forte, especially when it is backed by a directive order to obtain scarce materials. In buzzing hither and yon around Washington, they apparently fool government procurement people who should know better.

When civilian goods are scarce, as has been the case in certain household soaps, cleansers and the like over the past few months, these same fly-by-nights ply their trade with shoddy substitutes. They did it during both World Wars and are doing it again. That jobbers and large users should be taken in during the recent war by the phony substitute is no reason why this should happen now. New 'marvelous discoveries" offered as substitutes when standard goods are not available should be viewed with suspicion and examined with unusual care. For the fly-by-nights are on the wing and they will get you if you don't watch out.

A TIGHT supply situation on pyrethrum, but one that will be no worse than in 1950, is forecast for 1951 by a leading supplier. Military requirements seem to be the uncertain, but determining factor as to availability of the material next year, although demand by the armed forces is unlikely to reach what the bulletin terms, "astronomical proportions." Supplies of pyrethrum will be sufficiently tight to require planning on the part of users, the bulletin states, urging early commitments.

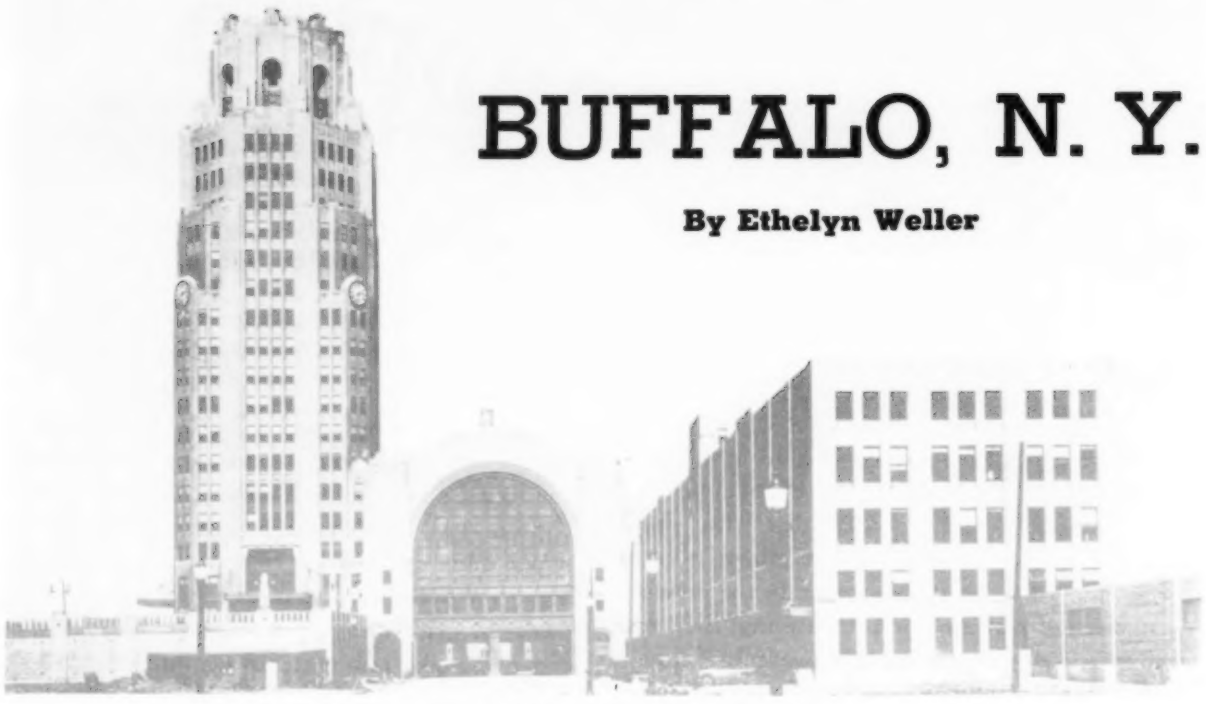
Prices will be higher than in 1950, although a decline toward the end of next year is predicted. This reduction will come too late to have any effect on 1951 costs of finished insecticides. All of which adds up to mean that with increased demand for pyrethrum to meet expanding requirements in space sprays, insecticide manufacturers had best make raw material commitments right now if they have not already done so. Even then, Uncle Sam's armed forces may come along and grab up a large tonnage for their own needs.

Assistance in solving the supply problem may come from allethrin, which has just been accepted for use in gas-propelled insecticidal aerosols. With this definite field of use now set for allethrin by the U. S. D. A., the manufacturers may be expected to start actual commercial production. Up to this point only test lots have been made.

WHEN the Chemical Specialties Manufacturers Association convenes for its annual meeting in New York next month, we feel that it might look into some sort of industry-sponsored activity to further the public's understanding and appreciation of its products. Such a plan might also be useful in offsetting some of the effects of unfavorable publicity which a few of the industry's products have been receiving as a result of newspaper articles, legislative activities, Congressional hearings, and increasing Federal Trade Commission citations. A positive program to sell the public on the value of the industry's products might aid in forestalling some adverse local and state legislation during the years ahead. With 44 state legislatures meeting in 1951, such a program would be particularly timely.

BUFFALO, N. Y.

By Ethelyn Weller



One of Buffalo's landmarks, the huge 20-story New York Central Railroad Terminal, is a large consumer of sanitation chemicals.

HEAVILY industrial Buffalo, located on one corner of Lake Erie, in northern New York State, being an important rail and water shipping center as well, has a real problem with dirt. How its difficulties with dirt are overcome, and the products used in its fight for cleanliness were determined by a study of a number of the city's more important buildings. To obtain a cross section, purchasers of sanitary chemicals in a large industrial plant, the New York Central Railroad's Buffalo Terminal, a large hospital, an office building, a hotel and a department store were interviewed. They were asked about the types and quantities of products used, methods of application in some cases and special problems involved in the purchasing or use of these products.

The Ellicott Square, a large office building in downtown Buffalo, is a fine example of good maintenance practices. This building has some 3,000 tenants, including offices and suites for various businesses and professions. There are wide entrances on both Main and Washington Streets, both flanked by banks of elevators. Beyond this is a huge lobby with a beautifully designed marble mosaic floor. A drug store and several small offices and shops complete the square about the lobby.

Floors in this building are of several types. The mosaic floors are cleaned with a tri-sodium solution, other marble floors such as those in the corridors and lavatories are cleaned with brand name detergent. Office and other floors covered with linoleum, asphalt tile, etc. are washed with a vegetable oil soap. Windows and lavatories are both serviced by outside sanitation companies.

Products used for these purposes are purchased in large amounts. The vegetable oil soap, packed in 300 pound drums, is used at a rate of 3000 to 3500 pounds per year, at an approximate cost of 11 cents a pound. The detergent is purchased in 300 pound barrels, 1350 to 1450 pounds being used annually. 2000 to 2500 pounds of tri-sodium are purchased annually.

Other materials have been tried from time to time but these particular products have been found best suited for the needs of the Ellicott Square. They were chosen after actual demonstrations and exhaustive trials in the building. They are purchased from distributors by the maintenance department as needed.

Another type of building in downtown Buffalo which exacts much of its maintenance staff is the Hotel Statler. Here are problems not met in a building such as the Ellicott Square.

Floors are of several types. Guest rooms and corridors have rugs or carpets; bath rooms are tile, while other floors are asphalt tile or terrazzo. Walls and ceilings are painted. All must be kept scrupulously clean.

All uncarpeted floors are cleaned with a synthetic detergent preparation. Walls are washed with a brand name detergent product. Guest room lavatories are cleaned with a brand name alkaline preparation, but employes' and public lavatories are serviced by a chemical company. Carpets are cleaned with vacuum cleaner, but when necessary are shampooed with a machine and a good emulsion,

as a Sanitary Supply Market

preferably a synthetic detergent.

Statler Hotels maintain a laboratory at their New York headquarters where all products used for any purpose by the chain are carefully tested. Only those found satisfactory for the purpose for which they are intended are purchased and put into use in the hotels. Executives stress the fact that this is not done for any reason of dissatisfaction with any product being currently used, but solely with an eye to continually seeking a better product whenever possible.

Soaps and synthetic detergents are tried out on actual walls; new carpet shampoos are used on rugs; waxes are experimented with, and with these products may be used newer or better equipment. These demonstrations are made by manufacturers or distributors and introduces a product, a new machine or line of equipment, or a combination of both. No definite decision is made, however, about the purchase of the merchandise until it has undergone further tests in the hotel company's laboratory.

Purchases for all the hotels in the chain are made at executive headquarters and designated amounts then allocated to the shipper for supply to each unit of the chain. While distributors occasionally try to interest local hotel managers in a product, no purchases are made in this way. The distributor is referred to the main office in New York where his product may be considered.

The Buffalo unit uses approximately eight tons of cleaning materials a year, at an approximate cost of $1800. This does not include soap for guest rooms or employes' or public lavatories.

Going to a Buffalo industrial plant we find the maintenance program much simplified in comparison to that of the Statler Hotel. In the big plant of Hewitt-Robins Rubber Co. the cleaning problem does not extend much beyond the offices and rest rooms. The factory is swept daily with a material that lays the dust and this constitutes most of the cleaning necessary in this part of the plant. The offices and rest rooms are another story. Many of the office floors are covered with linoleum, washed with an oil soap, followed by an application of a branded self-polishing floor wax. Oil soap is used for washing the walls, all of which are painted. Lavatory floors are washed daily with soap and water and disinfected once a month by a sanitation company. Windows throughout the plant are serviced by an outside contractor.

Figures on the amounts used and costs of these materials were not readily available.

While this company has no testing facilities for new products, they are purchased only after satisfactory results have been obtained through their trial use on floors or walls. These materials are purchased through local distributors whose salesmen make routine calls on the plant's purchasing division. As one executive said, "Salesmen leave a bad impression with the purchasing division if they come to 'the back door,' that is, if they try to contact the maintenance department directly rather than working through the purchasing division."

Sanitation supply materials are not heavily stocked by this company, orders being placed frequently with distributors to meet current requirements only.

A Buffalo institution that has worked out its cleaning problems carefully is the Millard Fillmore Hospital. This is one of the leading hospitals of the city with a capacity of over 600 beds and with the most modern equipment and facilities possible in this type of institution. The products now used for various cleaning operations have been adopted after careful consideration and demonstration.

Floors are given special care. As is readily understood the traffic on hospital floors is heavy. Another factor that must be considered is the fact that floors and walls must not only be clean, but also antiseptic. Millard Fillmore Hospital has chosen its cleaning products with this in mind.

Rubber tile floors are cleaned with a liquid cleaner, which removes all dirt thoroughly without streaking. Terrazzo floors are washed with a paste soap diluted with water. This has been found to be as effective, but more economical than liquid or powder cleansers as it cannot be wasted easily. Surgery floors are cleaned with a cleanser that is highly antiseptic and leaves no odor. Rubber tile floors are waxed after washing with a gloss wax, liquid self-polishing product.

Walls are cleaned with a detergent preparation, adopted not only because it is an excellent cleanser, but also because of its record of never causing a case of rash on the hands of an employee. The hospital has its own window washing staff, which relies on a solution of water and ammonia. A standard type bowl cleaner is used for toilets in all lavatories, and a trade name detergent employed for cleaning wash bowls, preferred because it does not clog drains.

Supplies are bought by the housekeeping department from local jobbers. For the year 1949 these materials amounted to:

Floor cleaner — 240 gallons at a cost of $432

Paste soap — 1040 pounds — $173.44

Antiseptic floor cleaner — 275 gallons — $220

Detergent bowl cleaner — 6 cases — $73.76

Detergent — 1200 pounds — $93

Gloss wax — 55 gallons — $100.59
Detergent for wash bowls — 1300 pounds — $143

One of Buffalo's neighboring towns is Cheektowaga, a railroad and industrial center. Situated on the outskirts of this town is the Immaculate Heart of Mary Orphan Home. This building is mentioned because it has solved the problem of caring for its floors so well.

Most of the floors are covered with a light grade linoleum which looks like new after several years of hard use. On one main corridor over which more than 150 people pass several times daily, the linoleum is 12 years old, while on another corridor, having equally as much wear is linoleum at least 20 years old. In the chapel are some 250 square feet of linoleum which has also received hard wear for a long time. These floors have remained unchanged in appearance through the years, well preserved by the excellent care they receive.

These floors have been treated with a standard brand wax twice each year and thoroughly mopped and buffed every second day thereafter. One reason for the popularity of this particular material for this purpose is that it will remove the black marks made so often by the children's shoes.

Kitchen and dining room floors of the institution have terrazzo floors. These withstand the heavy traffic of dinner wagons and other heavy objects which pass over them. They are kept spotless with daily washings of soap and water.

The Home uses 30 gallons of floor wax a year, at an estimated cost of $3.10 a gallon. It also uses 30 gallons of another floor treatment material, at a cost of $2.75 a gallon, a product which has many uses in the building. These materials are purchased from a manufacturer's representative in Buffalo.

A visit was paid to the Danahy-Faxon Company, a large food store chain with stores and super markets in Buffalo and Western New York, now a subsidiary of American Stores Co. About three years ago Danahy-Faxon erected a huge warehouse in Buffalo, covering 225,000 square feet of floor space, all on one floor. Included is space for all types of dry merchandise; eleven coolers, one a sharp freeze; egg candling and packing rooms and a modern bakery.

> While most large users of sanitary chemicals are satisfied with the products they are using, having decided upon them after extensive tests, they are alert to trends and willing to try worthwhile new products, this study of Buffalo shows.

The warehouse is swept daily and policed to assure that no papers, broken glass or other refuse is left lying about the floors. The coolers are handled differently. Here cleaning work is so rotated that each department is thoroughly cleaned on different days of the week. For instance, meat coolers are cleaned on Tuesday and Friday; the butter cooler also on Friday, and fresh produce coolers every 48 hours. The process is simple—coolers are first swept with dampened sawdust, then scrubbed with hot water and sal soda. This has been found better for this purpose than soap or other detergent. Special refrigerated meat delivery trucks are subject to the same treatment regularly. Egg rooms are cleaned on Saturday and here either soda or a synthetic detergent is used.

The main cleaning job is done in the bakery. Here cleaning of some sort is in progress at all times. Floors must be swept and washed, windows cleaned, beams and ceiling dusted and cleaned and dishes washed. The bakery consists of three departments—bakery proper, a store room for supplies and a large room where containers are washed.

Floors, which are of cement throughout the building, are swept often and washed daily with hot water and a synthetic detergent which must also be a disinfectant. This is used in the ratio of four ounces to each gallon of water. Walls and beams are vacuum cleaned at least once a week and washed often.

At the end of each working day all equipment in the bakery is cleaned. Machines and work tables are brushed, then washed with hot water and soap and dried by suction. For this purpose fine soap flakes are preferred over other types of detergents.

All bakery containers are of aluminum. When necessary, baking pans are soaked in a special bake pan cleanser and boiling water, then all containers are washed in a huge machine with hot water and a synthetic detergent. Dishes are then thoroughly rinsed in clear, constantly running water and air dried.

Bakery windows receive special care. They are tightly screened and sills and panes are washed regularly with hot water and a synthetic detergent. As a final precaution, a local exterminator makes monthly visits to the bakery, which is inspected often by the Erie County Health & Sanitation Department.

Bakery delivery trucks are washed each night, inside and out, with a high pressure hose.

Other areas in the warehouse which require careful consideration are the cafeteria and two large washrooms. These, as well as all offices, are swept and washed daily. A synthetic detergent is used, which also acts as a disinfectant or is used with one. Walls in these rooms are of tile and are washed regularly. Insecticides are used if necessary.

Cleaning products used for these various purposes are usually materials stocked and sold by Danahy-Faxon. Many hundreds of pounds of these soaps, synthetic detergents, etc., are used annually at a considerable cost to the company.

The huge, 20-story New York Central terminal presented a challenge to its maintenance department for many years. Two terrazzo floors, a 300 feet long passenger concourse and a 450 feet long train concourse, proved

difficult to clean. Smoke, soot, engine grease and other dirt, not only from the railway but from neighboring industrial plants are continually tracked on the floors by thousands of passengers and trainmen who pass over them daily. The change-over to diesel operated engines eliminated much of the smoke menace, but the grease and othr dirt remained.

The maintenance department of the terminal uses two floor scrubbing machines. Though excellent machines, it was found after a time that no amount of scrubbing could entirely remove the grime from the really beautiful terrazzo floors of the concourses. Many soaps and other cleansers were tried, even dilute sulphuric acid, but to little avail. Manufacturers sent their representatives, chemists from some of the big plants came to the terminal; all tried to work out a cleanser that would clean these floors and restore their colors. All failed. For 21 years this went on until it was feared that the floors might be beyond recall.

Then one day a maintenance man came to the office of the superintendent. He stated indifferently that a new cleaner had just come in. "Some kind of green stuff," he said. "Shall I try it in one of the machines?"

And the superintendent, with equal indifference, said he might as well.

The man returned in a few minutes, his face beaming. "Boss," he exclaimed, "can you come and look at the floor?"

He led the superintendent to a spot on the terrazzo floor of the passenger concourse, a spot that was clean and bright as a new floor. The spot was surrounded with beaming maintenance men. The "green stuff" had done the trick!

The new material was a synthetic detergent made by the Cudahy Packing Co. Nothing else has ever been used since in the floor scrubbing machines. This material has also been used successfully for cleaning the marble trim on the outside of the building.

The detergent is purchased in 100 pound containers, usually ten at a time. About 200 pounds of the material are used in month.

Offices are cleaned at night. Floors of linoleum or asphalt tile are mopped daily with clear water, carefully waxed with a self-polishing wax once a month. This wax is purchased in 55 gallon barrels, about one barrel a month being used. Desks are wiped off with a mild solution of the detergent preparation. Windows once were cleaned with a special window cleaning material, but recently the services of a commercial window cleaning company have been engaged.

Concrete floors in the terminal are washed with a standard soap powder. This, too, is purchased by the barrel, about one barrel a month being used.

The two large restrooms of the terminal are spotless. The tile floors are scrubbed daily, or oftener, with soap and water and the white walls are also washed, a mild scouring powder sometimes being used with the soap and water. The Plunkett Co. services all lavatories and a disinfectant supplied by the company is sprayed on daily. About 30 gallons of disinfectant are used each month, all included in the Plunkett contract with the New York Central.

Another building which depends on the Finnell System for keeping a difficult main floor clean is the large department store of Adam, Meldrum & Anderson Company in Buffalo. This is of terrazzo and with the many patrons and members of the store personnel who walk over it six days a week it becomes very soiled by store closing time each day. This is even worse in the winter or after a rain, when the black dirt always present on city streets is tracked in. A washing powder made by Finnell, has been used with quite satisfactory results in their machine for this floor.

No wax is used on floors or furniture but a good grade of furniture polish is sometimes used on the latter. Most of the other five floors of this store are covered with thick carpet, which requires vacuum cleaning and occasional shampooing with a machine and good emulsion. Windows are cleaned by store porters, who use only clear water and a rubber wiper.

Buffalo is situated in Erie County, which took over the Department of Sanitation for Buffalo and the County in 1948. Under this plan it has functioned very well. Hospitals and other county and state institutions come under the direction of this department and the expense of maintenance amounts to about $2,000,000 a year. An important item included in this total is the amount set aside for the purchase of waxes, cleaning powders, soaps, synthetic detergents, disinfectants, insecticides, etc., used for various purposes.

In talking with these and other maintenance men and women certain facts seemed to be established. Soaps have their uses, but synthetic detergents have replaced or supplemented them in many instances. Buffalo has very hard water and the greater wetting powers and stability of synthetic detergents under these conditions have made them favorites of most maintenance staffs.

With scouring powders, those with grease and grit dissolving ingredients are preferred over those which are simple abrasives. Self-polishing floor waxes are preferred over other types.

In some maintenance departments the superintendent is the purchasing agent, in others there is a separate purchasing division. Supplies are usually bought in large amounts through a jobber or distributor and new products are not purchased until some form of test has been made as to their ability to do the job required of them. Careful records are kept by maintenance departments of the purchase and disposition of these supplies.

Distributors and jobbers, and manufacturers, must be prepared to make requested demonstrations of their products. Colorful advertisements attract attention but purchase follows a test. Most maintenance departments today have in use products so tested and proved and are not

(*Turn to Page* 137)

New developments in improved fungicides for wood preservatives, plus their availability for the household market, has widened their sale in this field. Zinc chloride types are most widely used.

WOOD

DURING the past decade or so, there has been remarkable progress in the development and extension of preservative treatments to protect wood against decay and destructive insects. Of considerable significance in this connection was the recent announcement that Sears, Roebuck and Company was to sell a wood preservative preparation. The product was listed in the company's spring catalog and was put on display in its many stores throughout the country. This organization, it was pointed out, is the first national distributor to merchandise a wood preservative.

This is one of the most noteworthy phases of the wood preservatives picture. Although the bulk of wood preservatives is still used for treating railroad ties, telephone poles and wharf piles, there is a growing trend toward the more general and more diversified application of these products. Thus, the success attained by the major users encouraged builders to enjoy treated wood in houses, factories and other constructions. Simplified methods were devised whereby farmers and land owners could treat fence posts, utility poles and the like with wood preservatives. (1) Lumber and millwork dealers, using similar simplified methods, were able to offer treated wood and wood products to their customers.

In addition, a number of trade-name preservatives began to be sold in gallon lots by retail paint, hardware and lumber dealers. (2) With a growing market, the next obvious step was the one taken by Sears, Roebuck. No doubt, others will follow suit and wood preservatives will take their place along side the many other products used to maintain homes and factories in a sound condition.

As explained by one authority, (3) wood decay is caused almost entirely by higher fungi, which produce enzymes able to break down lignified cellulose. Bacteria play little part in the process. Moisture, he notes, is the chief factor influencing the rate of decay. Although the optimum moisture content varies with the species of fungus involved and the kind of wood, no decay occurs if the moisture content of the wood (based on dry weight) is below 20 per cent.

Humidity Favors Fungi

OBVIOUSLY, conditions of high humidity are especially favorable to the growth of rot-causing fungi. Such an environment often prevails in laundries, dairies, breweries, certain parts of restaurants, storage cellars and in basements. Moisture is also transmitted to wooden structures through concrete or masonry foundations or through direct contact with the ground. This is often the case in buildings with wooden foundations, in porches, gates, trellises and arbors, in fence posts, and in outdoor furniture. Moisture absorbed by wood from leaky roofs, plumbing and other sources may also encourage the growth of fungi.

Aside from the effects of decay, the useful life of wood can be greatly reduced by various insects. Termites, certain beetles, worms, grubs and other insects not only live in wood but often find their nutrition in it.

Insect damage and decay cause huge losses each year. Rot has been called (4) wood's principal enemy and it is estimated (5) that 10 per cent of the lumber used annually goes to replace wood that has lost its serviceability through decay. According to Traux (6) of the Forest Products Laboratory, wood now in useful service is being destroyed by decay and insects at the rate of several billion board feet per year. Put another way, this about equals the amount of wood used in a normal average year in the construction of dwelling units. Much of this enormous waste, says this expert, can be avoided by the use of preservative-treated wood, "one piece of which may do the work of several replacements of untreated wood."

More and more frequently, the use of preservative-treated lumber is being specified in the vulnerable parts of new buildings. The use of treated lumber for repairs, replacement and additions is now much more general and has proved to be beneficial and economical. In view of these and other developments, there are those who feel that the time is not far off when the well-stocked maintenance departments will keep a supply of wood preservative on hand to treat every piece of lumber that requires protection.

Aside from reducing maintenance and replacement expenses, there are other definite advantages arising from the use of wood preservatives. (1) Since decaying timbers are highly inflammable when dry, preservative treatment reduces fire hazard by keeping the wood sound. Moreover, well-preserved wood retains a high strength over a long period of time, while decaying timber rapidly loses its strength. (7) By lengthening the life of wood and permitting the use of lower grade, ordinarily less durable material, preservation treatments serve simultaneously to reduce costs and conserve the nation's timber resources. Obviously, preservative treatments cannot restore wood that has been weakened or partially destroyed by fungi or insects.

Methods of Application

THE type of preservative used and the thoroughness with which the wood is treated are prime factors in determining the results obtained. De-

PRESERVATIVES

By Milton A. Lesser

tails on the pressure and nonpressure methods of applying wood preservatives are available from government agencies, notably the Forest Products Laboratory at Madison, Wisconsin. Information, especially data on pressure methods, is available from private groups, particularly the American Wood-Preservers' Association (A.W.P.A.) of Washington, D. C.

In one of the government publications, (8) it is pointed out that the amount of protection given by a good wood preservative depends largely upon the absorption and penetration obtained. Some preservative processes are simple and inexpensive, while others are complicated and require expensive equipment.

Pressure processes belong in the latter category. They provide the most effective methods for impregnating wood with preservatives and the material so treated gives the best service for most uses. Such treatments require closed cylinders, with vacuum, pressure and heating facilities. Although the several pressure methods may differ in detail, in general they are all based on the same basic principle. The wood, placed on steel cars, is run into a long steel cylinder. This is then tightly closed and filled with preservative. By a careful application of pressure and heat, the preservative compound is forced into the wood until it has absorbed the desired amount of protective substance. (6)

Clearly such equipment is beyond the scope of the small operator. For such individuals, nonpressure processes provide simpler yet often highly effective methods for treating wood to protect it against decay and insects. (9-12) As noted by Snyder and Zetek (13) in their consideration of the several nonpressure processes, preservatives may be applied by brushing or spraying, charring and spraying, dipping, steeping or cold-soaking, diffusion in the sap-stream, and the hot-and-cold-bath or open tank treatment. They stated that steeping wood for a week or more in a preservative solution, the application of sap-stream diffusion methods, and the hot-and-cold-bath treatments are capable of giving satisfactory protection when properly applied. Of these, the open tank or hot-and-cold-bath method was the most effective, often being used on a large scale, generally with creosote as the impregnating agent.

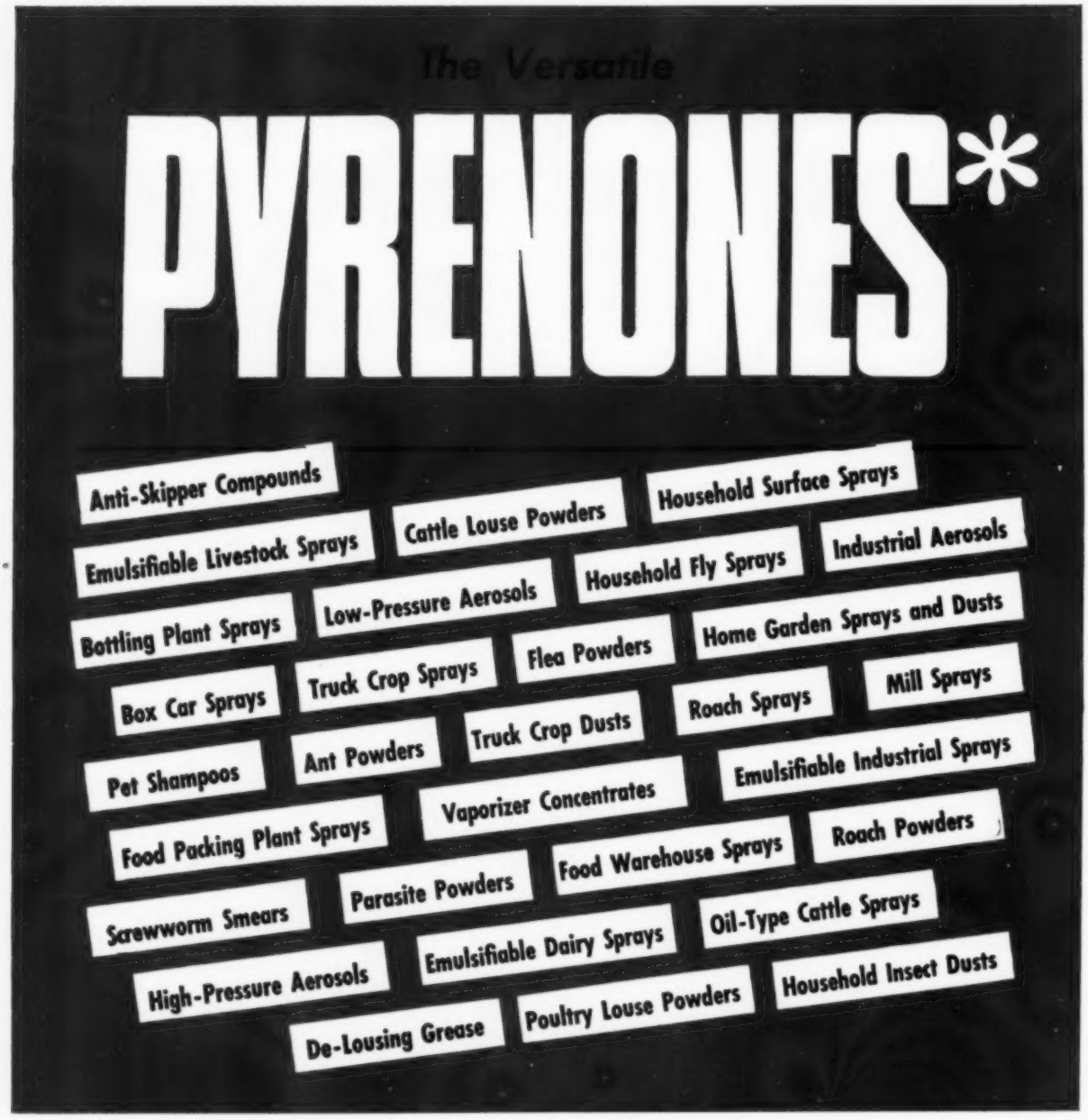
Truax has remarked that when soaking methods are properly and thoroughly employed, they are capable of adding appreciably to the serviceable life of wood. However, in his opinion, brushing or spraying a preservative on wood adds only about one to three years to its useful life. In contrast, other workers (13) have stated that brushing with creosotes, carboliniums and other preservatives have given an average of five to six years' life to timbers in contact with the ground under severe test conditions. Such treatments gave effective protection against attack by dry-wood termites where the treated wood was used above ground. In general, say these experts, such coated timber gave much longer service when used above ground than untreated wood. It is hardly necessary to note that the rather superficial effects of dipping or brushing cannot compare with the other methods of preservation.

One manufacturer (5) of preservatives advises that when application of the protective is made by brush, spray or dipping it is important that the surface shall be dry, clean, bare and free from any matter that would prevent penetration of the solution. Hartley, (14) a government forest pathologist, has observed that dip or brush methods have a place in the treatment of wood members exposed to rain or occasional moisture, as in porches and window sashes and frames. Water and fungi enter through the exposed end grain of the wood product more readily than through its side. Therefore, says he, preservative treatment of the ends is especially profitable.

Of interest in this connection is the growing number of custom treaters who employ nonpressure methods. Typical is the description (15) given of one such business in the Miami area of Florida, where decay and insect problems make wood preservation a "must." The method of treatment involves the use of a preservative containing pentachlorophenol and the immersion of millwork and other lumber in the solution for three minutes. Rough lumber for use in contact with soil or concrete is generally given a longer treatment. In addition to treating building lumber for millwork manufacturers, retail dealers, contractors and individuals, this custom treater also dips outboard boats, immersing them so that the preservative will penetrate every part of the wood. The firm also treats the bamboo and wood furniture which is used so extensively in Florida. Besides this work, the company also does considerable spraying and brushing of the preservative on wood structures such as bathing cabanas and docks and piers.

Preservative Standards

DURING the more than 200 years since chemical treatments were introduced, numerous compounds have been offered as wood preservatives. Since many were quite worthless, it became necessary to establish standards and develop specifications for these agents. Of the many materials that have been offered, comparatively few have been found to meet the



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basic requirements of a good wood preservative. As summarized by Wilford (10), an acceptable preservative should be: (a) destructive or repellent to injurious fungi and insects over a reasonably long time; (b) harmless to man and warm-blooded animals, e.g. safe to handle and use; (c) easily applied for ready absorption and even distribution; (d) reasonably cheap and readily available; (e) non-injurious to the treated wood; and (f) non-corrosive to metals.

In another report (16) it is pointed out that, for the treatment of certain special products, such as millwork and manufactured articles, it may also be required that the preservative have additional properties such as paintability, freedom from odor or color, fire resistance, moisture repellence, freedom from swelling, or that it have combinations of several of these and other properties.

A number of these properties, says Blew, (17) can be tested in the laboratory and within a period of three to six months it is possible to determine whether a material is sufficiently promising to rate further consideration. Although, as remarked by Stamm, (18) improvements are being made in these screening tests, the full evaluation of a preservative is a long, drawn-out procedure. For example, there is no acceptable laboratory test for permanence. Thus, there is no substitute for long-time exposure tests under actual use conditions to determine the all-around effectiveness of a preservative.

It is on the basis of such studies and continued tests that specifications are developed. Probably the most important are those drawn up by the A.W.P.A. and published in their "Manual of Recommended Practice," which is revised annually. Federal Specification TT-W-571b recommends treatment practices for use on government orders for pressure-treated material. Other interested groups, such as the American Railway Engineering Association, (19) also set up specifications of their own.

In discussing the various wood preservatives, they can be divided into three general classes: (a) the toxic oils, an example of which is creosote, which are relatively insoluble in water and of low volatility; (b) the inorganic salts and similar materials that are used in aqueous solution; and (c) toxic chemicals dissolved in a solvent or solvent mixture other than water.

The first group includes coal-tar creosote, wood-tar creosote, lignite-tar creosote, water-gas-tar creosote, oil-tar creosote, coal-tar and tars from various other sources, and various anthracene oils. Coal-tar creosote is the most widely used wood preservative. Because of its long record of satisfactory performance it has been accepted as the standard wood preservative where a high degree of protection is desired. (2) It is used mainly on wood that is to be in contact with the soil and water, out-of-doors and where its odor will be unobjectionable and painting will be unnecessary. (6) People handling creosoted wood sometimes object to its tendency to soil clothing. In some cases it may cause skin burns, but commercially processed wood generally produces little risk from such injury.

Specifications for coal-tar creosote have been prepared by the government (Federal Specification TT-W-556a) and by other interested groups. Since the creosote is a by-product of the coal-tar industry, its composition is subject to variation. Because of new demands on this industry, there has been even greater variation in creosotes. These facts were taken into consideration at the recent annual meeting of the A.W.P.A., where a new standard specification for creosote was submitted. (20)

Creosotes obtained from sources other than coal-tar are also employed in the preservative treatment of wood. They are used principally for blending with coal-tar creosote. (2) Coal tar and other tars, which are seldom used alone, similarly find use in combination with coal-tar creosote; such mixtures being used chiefly for treating railroad ties.

Anthracene oils, or carbolineums, are coal-tar distillates of higher boiling point and specific gravity than coal-tar creosote, but their general properties and effectiveness as wood preservatives are similar to those of the creosotes. Usually sold under various trade names, these oils are used chiefly for nonpressure processes. As indicated in the technical (21) and patent (22) literature, attention is being focused on the suitability of various aromatic hydrocarbon oils as wood preservatives.

Zinc Chloride Preservatives

ZINC CHLORIDE and chromated zinc chloride are the most important representatives of the second or water-borne type of preservatives. Certain fluorides and various salts of copper, mercury and arsenic also belong in this category, as do a number of combination compounds. Such preservatives are usually favored for treating wood that is used indoors and for applications where the wood will not be in contact with the ground or water. These compounds leave the wood surface comparatively clean, paintable and free from objectionable odor. Since water is the vehicle for the impregnating process, it is necessary to dry the wood to the end-use moisture requirement.

Zinc chloride and, more recently, chromated zinc chloride have been looked upon as standard preservatives where it is desired to provide a clean, low-cost treatment. Standards for zinc chloride and chromated zinc chloride are provided in Federal Specifications TT-W-576a and TT-W-551, respectively, and in the A.W.P.A. Standard P5-48. Until about ten years ago, according to Blew, (17) zinc chloride was the most extensively used water-borne preservative in this country. It held this position because of such characteristics as relative cheapness, uniformity, availability, cleanliness, lack of odor, ease of shipment and freedom from fire hazard. When impregnated into wood, zinc chloride reduces inflammability slightly. It gives best results by pressure treatment, but it has proved satisfactory for some purposes when applied by sap-stream and other non-pressure methods.

Possessing similar properties, chromated zinc chloride is said to show less tendency than zinc chloride to leach out of the wood when in contact with water or damp soil. Note-

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worthy in this connection are studies (23) in which freshly-cut poles were immediately immersed in zinc chloride or chromated zinc chloride solutions so that the wood was impregnated with 1.25 per cent of its weight of salt. It is significant that the treated poles were intact after being buried in soil for five years and they are described as being practically rot-resistant for several decades. According to one recent review, (2) the superiority of the chromated compound with respect to leaching has not yet been fully established.

Nonetheless, for more than a decade, zinc chloride has been gradually displaced by the chromated salt. Indicative of the trend is the fact that chromated zinc chloride is the first choice in a government-recommended (24) nonpressure treatment for poles. A newer modification, copperized chromated zinc chloride has shown excellent wood preserving qualities in accelerated service tests. (25)

Copper sulfate is occasionally suggested (24) as a wood preservative. Actually, it finds but little use in commercial treatments because of its tendency to stain the wood, attack iron and steel equipment and corrode ungalvanized nails, wire and staples. Another old-timer, mercuric chloride also finds but little use in modern methods. Even though it is an excellent preservative, its highly poisonous character, plus its corrosive action on metals, are factors that restrict its employment. Arsenic salts find use in combination with other preservative salts.

Although fluorides are found in various proprietary and patented wood preserving mixtures, such compounds are more popular in Europe than in this country. Quite recently, following a study of the effectiveness of metallic fluorides and silicofluorides, a German worker (26) developed an "excellent" wood preservative consisting largely of alkaline hydrogen fluorides, organic compounds and suitable wetting agents.

In his recent review of technical developments, Stamm (18) observes that a number of proprietary salt combinations look more promising than single salts. Those mentioned in this connection are Celcure, Boliden salt, Wolman salt or Tanalith, Greensalt (Erdalith), and Chemonite. Most of these compounds are covered by patents, (17) and the newer patent literature (27, 28) indicates that more combinations of this sort are being developed.

Before leaving this category of waterborne preservatives, mention should be made of the wood protective action of borax and boric acid. Thus, in a service test (29) in a mine, maple timber treated with a borax solution by the hot-and-cold bath method had an average useful life of 11.2 years. Untreated timbers had an average life of 3.8 years. Also noteworthy is McDaniel's (30) suggestion for killing powder-post beetles in wood. This consists in the application of a solution containing:

Borax, powdered	10 lb.
Sodium lauryl sulfate	4 oz.
Water	100 gal.

It can be applied to beams in basements, barns and out-buildings, but because of its high water content it is not suitable on finished surfaces. Comprehensive tests (31, 32) also indicate that boric acid is a useful preservative for timber; being especially effective against boring insects.

Comparative newcomers are the solvent-soluble wood preservatives, such as pentachlorophenol and copper naphthenate, which comprise the third class. As a group, these preservatives were developed to meet the need for treatments that will not swell the wood nor require long drying and which will leave the wood in a clean, odorless and paintable condition.

Pentachlorophenol

PENTACHLOROPHENOL, now covered by Federal Specification TT-W-571, has come into wide use during recent years; its employment being accelerated by war-time shortages of coal-tar creosote. Originally sold as proprietary products which were intended primarily for surface applications, pentachlorophenol solutions may be applied by both pressure and nonpressure methods, as required for interior or exterior use. As previously noted, the compound forms the basis of solutions used by many smaller custom treaters. It is also the active ingredient in a number of trade-name wood preservatives. Thus, the preparation being merchandised by Sears, Roebuck and Company is described as a pentachlorophenol solution.

Pentachlorophenol dissolved in a suitable petroleum solvent is generally employed in a five per cent concentration. Solutions of this strength have been found to give a high degree of protection against fungi and wood-destroying insects. (2, 33) The degree of protection varies, of course, with the type of treatment. (18, 34)

Of growing industrial importance, the benefits of preservation with pentachlorophenol can also be obtained readily by the smaller consumer. The householder, for example, can obtain worthwhile results when pentachlorophenol-treated lumber is used for porches, walks, trellises, picket fences, rustic garden pieces and similar items. While it may be more desirable at times to use lumber treated by the pressure or hot-and-cold bath methods, it has been found that thoroughly brushing or swabbing the lumber or dipping it in a solution can prove highly effective (35)

As noted by an expert (2) from the Forest Products Laboratory, solutions containing five per cent of pentachlorophenol have been found to be useful in prolonging the life of wood when two coats are applied by brushing, or permitting the wood to soak for 15 minutes or longer. Such treatment is suitable for wood not subject to severe exposure. He also observes that because of the high toxicity of the compound and its resistance to leaching, more thoroughly applied solutions may also yield wood products suitable for use in contact with the ground.

Pentachlorophenol is available as dry flakes and as concentrated solutions. Because of the possibility of irritation, adequate precautions should be taken by those handling these products. Unless special mixing equipment is available, it is generally more feasible to purchase a concentrated solu-

(*Turn to Page* 141)

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Rosin as an Insecticide Adhesive

The use of pine gum rosin as an adhesive in outdoor DDT residual sprays improves weathering properties and the insecticidal efficiency of residual deposits.

By J. A. Jensen, W. T. Sumerford and R. W. Fay*

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THE public has become increasingly aware of the role flies play in the transmission of diseases such as dysentery, enteritis, typhoid, and possibly even poliomyelitis. This apprehension has resulted in a great public demand for community-wide fly control programs. The problem of fly control is acute as well as difficult.

With the advent of chlorinated hydrocarbon insecticides, and in particular DDT with its residual effectiveness, efforts have been made to control flies by chemical means on a large scale. However, community-wide spraying of houses with DDT as an indoor residual application is not economical or particularly desirable. Since flies breed outdoors and since they frequent outdoor surfaces, the spraying of these surfaces was indicated.

Although residual DDT deposits remain effective for three to four months, on indoor surfaces they fail utterly in less than six weeks when subjected to outdoor weathering effects. The short period of effectiveness may be attributed at least in part to the mechanical action of rain which breaks DDT crystals and the dissolving action of water upon the emulsifiers in emulsion sprays and upon the suspending agents in water wettable suspensions. Weathering of deposits is, in general, minimized by the use of adhesives as integral parts of sprays. Adhesive compounds have been developed, tested, and evaluated for insecticidal sprays. Many of these compounds, however, were not entirely satisfactory for use with emulsions, and selection was limited to oils of animal and plant origin, gums, and a few miscellaneous organic and inorganic compounds.

Points considered in the selection of adhesives for the present purpose were (1) ready solubility in water or in xylene, which is the solvent currently used by the Communicable Disease Center Activities in DDT spray formulations, (2) compatibility with the other spray ingredients, DDT, and emulsifier, (3) non-fouling of spray equipment, (4) no unsightly spray residue, (5) reasonable cost and ready availability in areas where large spraying programs are conducted.

The first test of ten candidate materials involved their compatibility and more especially their effect on emulsion stability (table 1). Materials were added to standard emulsions containing 5 percent DDT, 0.4 percent of emulsifier (Triton X-100)[2], approximately 14.6 percent xylene and 80 percent water. All adhesive materials were added at the rate of 0.5 percent by weight of emulsion. Samples were placed in 100 ml. Nessler tubes and observed for breakdown over a twenty-

[2] A product of Rohm & Haas Co., Philadelphia, Pa.

TABLE 1. Effect of 0.5 percent concentrations of candidate adhesive materials on the stability of 5-percent-DDT xylene emulsions.

Adhesive Material	*Emulsion stable for*		
	3 *hrs.*	8 *hrs.*	24 *hrs.*
Raw linseed oil	yes	yes	yes
Paraffin oil (heavy)	yes	yes	yes
Sulfonated castor oil	yes	no	no
Propylene glycol laurate	no	no	no
Polyethylene polysulfide[a]	yes	no	no
Calcium caseinate	yes	no	no
Pine gum rosin	yes	yes	no
Hercolyn[b]	yes	yes	yes
Orthex[c]	yes	yes	no
DuPont Spreader Sticker[d]	yes	yes	yes

[a] A product of B. F. Goodrich Chemical Co., Cleveland, Ohio.
[b] A product of Hercules Powder Co., Wilmington, Del.
[c] A product of California Spray Chemical Corp., Orlando, Fla.
[d] A product of E. I. duPont de Nemours & Co., Wilmington, Del.

* Mr. Jensen is a sanitary engineer, W. T. Sumerford is a chemist and R. W. Fay an entomologist.
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TABLE 2. Insecticidal efficiency of deposits of 125 mg. DDT per sq. ft. from 5-percent DDT emulsion sprays with varying amounts of pine gum rosin adhesive, with and without 0.4-percent emulsifier. Results expressed in percent 24-hr. mortality of adult female insects exposed for 20 minutes.

Percent Emulsifier[a]	Percent Rosin	Species of Fly	24-hr. Mortality, Age of Residue (wks.) 2	4	6	8
2	2	C. macellaria	100	100	100	100
		M. domestica	100	100	100	100
		P. pallescens	100	100	100	95
0	2	C. macellaria	100	100	100	100
		M. domestica	100	100	100	100
		P. pallescens	96	100	100	98
2	1	C. macellaria	100	100	100	44
		M. domestica	97	100	100	40
		P. pallescens	100	100	100	6
0	1	C. macellaria	100	100	100	99
		M. domestica	100	100	95	92
		P. pallescens	100	100	100	84
2	0.5	C. macellaria	100	95	97	13
		M. domestica	100	61	82	2
		P. pallescens	100	78	71	14
0	0.5	C. macellaria	100	100	100	77
		M. domestica	99	100	99	68
		P. pallescens	97	100	100	52
2	0	C. macellaria	77	100	35	8
		M. domestica	74	98	15	0
		P. pallescens	61	100	14	0
0	0	C. macellaria	100	100	100	31
		M. domestica	98	100	100	10
		P. pallescens	100	100	100	9
Cumulative Rainfall (inches)			5.3	6.0	10.2	12.3

[a] Triton X-100

four hour period.

The same compounds were then tested in emulsion formulations for adhesive properties. The emulsions were sprayed on glass panels at the rate of 200 mgs. DDT per square foot. These panels were placed in outdoor racks inclined thirty degrees from the vertical position, and facing south. After exposure to 1.73 inches of intermittent rainfall during the following week, the only panels which retained visible spray deposits were those containing DuPont's Spreader Sticker and pine gum rosin. Based on considerations of cost, effect on emulsion stability, and adhesive qualities, it was concluded that efforts should be directed toward a satisfactory formulation using rosin as an adhesive.

A series of emulsions were therefore made to test the effect of rosin at 0, ½-, 1- and 2-percent concentrations with and without 0.4 percent emulsifier. The latter variation was intended to show the effect, if any, of the emulsifier on the weathering ability of the residuals. Exposed sets of panels were removed and tested for insecticidal efficiency bi-weekly for a period of eight weeks. Insecticidal activity was determined from 24-hr. mortalities of laboratory-reared house flies, *Musca domestica*, and blowflies, *Callitroga macellaria*, and *Phoenicia pallescens* after 20 minute exposures to the panels. Table 2 shows formulations tested, periods of exposure, rainfall, and insecticidal effectiveness. Subsequent tests have shown DDT deposits from formulations having 2-percent rosin content continued to kill better than 90-percent of the test insects for periods of three to four months. Results in table 2 indicate slightly better overall effectiveness in formulations where emulsifier is omitted, and improved weathering ability with increasing amounts of pine gum rosin as an adhesive.

As a result of this investigation, the Public Health Service has recommended that pine gum rosin be used in outdoor DDT residual sprays for fly control, and has suggested that the addition of 0.4 percent emulsifier should be continued in order to insure emulsion stability in hand sprayers that do not have adequate agitation. In community-wide spraying programs, it is customary and expedient to prepare a DDT concentrate that may be taken to the point of application, where the emulsion is prepared by addition of water.

The suggested formula for a DDT concentrate (50 gallons) is as follows:

DDT	25% (105 lbs.)
Xylene	63% (36 gal.)
Suitable Emulsifier.	2% (1 gal.)
Pine Gum Rosin...	10% (42 lbs.)

DDT is first dissolved completely in the xylene, then emulsifier is added and dissolved, followed by pine gum rosin. It is important that the emulsifier be added and dissolved before the addition of rosin. The concentrate is diluted with four parts of water and agitated in the spray can, thus a five percent DDT emulsion is obtained.

Summary. Laboratory and field results indicate that the addition of two percent rosin by weight to five percent DDT-xylene emulsions decidedly improves the weathering properties and the insecticidal efficiency of outdoor residual deposits.

Hyman Aldrin Circular

A circular which discusses the use of aldrin insecticides for grasshopper control was issued recently by Julius Hyman & Co., Denver. The material is acceptable for grasshopper control subject to certain understandings and limitations, to the U. S. Department of Agriculture, according to the company. The circular, No. 402, is available on request.

R&H Experimental Farm

Purchase of 211 acre farm in Bucks County, Pennsylvania, for the extension of its experimental field research on insecticides, etc., was announced recently by Rohm & Haas Co., Philadelphia. The farm is located about nine miles from the firm's Bristol, Pa., plant.

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Paraffin and Microcrystalline Waxes

By Donald T. Jones*
Atlantic Refining Co.
Philadelphia, Pa.

A RELATIVELY oil-free paraffin wax has, in the past, been removed from the wax distillate and sweating operation of the resultant slack wax. Recently, solvent dewaxing of the distillate has been introduced with considerable versatility of operation. Oil has been removed also with success from the slack wax, by emulsification and centrifuge.

The crystalline type wax consists principally of saturated straight-chain hydrocarbons ranging from C_{17} to the neighborhood of C_{30}, and minute amounts of unsaturates. The latter, which apparently become dark upon polymerizing, seem to explain the gradual discoloration of water-white wax when exposed to air. Hinman (1) explains that the character of the wax appears to be dependent upon the fraction of the particular crude from which it originates; however, melting point, tensile strength, oil, hardness and color appear to be the physical properties affecting the wax value.

Tensile strength has been used frequently as an indication of quality of wax, since it is affected by the oil content, crystalline structure and chemical characteristics. A microscopic examination of two waxes having the same melting point, but different tensile strengths, would indicate that the wax containing the larger crystals would have the lower tensile strength. The tensile strength is lowered by increased oil content and by chemical instability of the wax in the presence of air or sunlight.

Crystal formation of paraffin wax is that of needles, plates, malcrystals or a mixture. This will sometimes depend on the techniques by which the crystal is affected. By malcrystalline is meant small crystals of no readily identifiable shape. Crystallization from solvents also produces varying types of crystal structure, depending on the temperature at which they were obtained. Ferris and Cowles (2) found that both needles and malcrystalline waxes have marked powers, under proper conditions, of impressing their own form on plate waxes. This again is, of course, dependent upon the relative solubility of the various waxes in whatever solvent is employed. These men found also that removal of oil did not alter materially the formation of crystals.

A relatively small amount of a microcrystalline wax in paraffin of a plate or needle type will induce a malcrystalline type of structure. A microcrystalline wax consists of microscopic crystals of no definite shape. Certain types of so-called high melting paraffin wax show a definite malcrystalline structure. It is common knowledge that malcrystalline structure cannot be resolved into definite needles and plates.

Micro waxes are derived from crude by a long series of processing steps, receiving substantially the same treatment as solvent oils. Pipestills fractionate crude, distilling off a series of relatively low boiling distillate cuts and leaving behind the high boiling, high flash, high molecular weight fraction known as "Pipe Still Bottoms". Asphaltic materials are removed from this Pipe Still Bottoms by precipitation from a large volume of liquid propane solution. Naphthenic materials are removed by an extraction with phenol. Waxy constituents are separated from oil by crystallizing them from the oil at low temperatures in a methyl ethyl ketone solvent solution, filtering out the wax, and solvent washing the wax filter-cake. In each of the foregoing solvent processes, the solvent is removed carefully and completely.

Up to this point, the wax is a by-product in the manufacture of solvent oil stocks. A second solvent crystallization, filtration, and solvent washing with methyl ethyl ketone removes residual oil and undesirable low melting waxy constituents, to yield a dark-colored micro wax as the end product. To make light-colored micro, the dark micro is percolated through an absorbent clay bed, as a decolorizing step.

Microcrystalline wax is distinguished from paraffin by its small indistinct crystals, and by its inherent toughness and outstanding tensile strength and flexibility characteristics. Even though microcrystalline waxes generally have more oil than paraffin waxes, they absorb considerable quantities of oil with exceptional retentivity, and in some cases have considerable tackiness. Oil held by a micro or malcrystalline type slack wax cannot be sweated or pressed out of the wax, and it has, therefore, been necessary to go to the previous solvent dewaxing and deoiling process. Residuum microcrystalline waxes have been considered in the past to have a definite microcrystalline structure. However, recently high melting point micros have been developed which contain a moderate amount of a definite crystalline type material of relatively low melting point. The micro waxes can be classified as to two types, the first being the extremely ductile, flexible and tacky type of material employed commonly as a laminant, with the second being a relatively high melting dry or relatively oil-free material, of interest to most people in

* Paper presented before Mid-year Meeting, C.S.M.A., Chicago, June 12, 1950.

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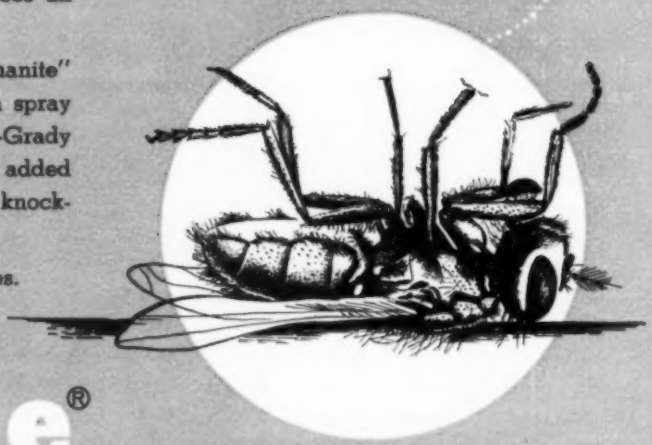

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the liquid polish industry. The latter has found wide usage in many fields, since in some cases the price picture is comparable to that presented by paraffin wax.

Paraffin waxes will not take up oil readily, but they have excellent retentive powers in respect to solvents, which again can be utilized to advantage in the polish industry. The addition of relatively small amounts of microcrystalline wax to paraffin will raise the refractive index considerably. There are definite possibilities that a dry, high melting point microcrystalline wax can be used as a direct substitute for many natural waxes; however, much remains to be done in this respect. If oil, paraffin wax or slack wax is added to the oil-free micro, it will tend to make it more plastic and, in turn, less desirable as a possible natural wax substitute.

Microcrystalline waxes apparently contain natural crystal inhibitors which, upon removal from the parent material, will impart a malcrystalline structure to paraffin wax if added in quantities of one-tenth percent or more. The material appears to be of a dark resin type which tends to be relatively unstable when exposed to air for several days. Micro wax, when added to paraffin, produces crystal modification and resultant changes in physical properties, as shown in Table I. In addition to this, the micro will help the paraffin retain considerable oil.

One of the most recent and revolutionary developments has been the adoption of paraffin, micro and polyethylene resin blends. However, it is extremely difficult to handle a material such as polyethylene where an emulsion is concerned, since it is virtually impossible to break it down into extremely small particle size. The polyethylene will induce considerable gloss, and if it was not for the factor mentioned previously, would probably have found wide acceptance by this time.

The physical properties shown in Table II are those we believe to be significant in choosing a petroleum type wax to be used in liquid polishes.

As you know, the higher the refractive index, the more incident light reflected and, as a result, a higher gloss. However, it must be kept in mind, when dealing with waxes, that a high oil content will also give a higher refractive index and will, as a rule, destroy gloss. We believe that it is a combination of all these properties, not just one, that will give a satisfactory material.

The tackiness test, utilized in obtaining the data, consists of forcing a metal ball to a predetermined depth in the wax, and measuring the force necessary to pull it out. The tackiness is then calculated in pounds per square inch, and is the maximum adhesive or cohesive stress, whichever is smaller. The ideal situation appears to be low oil, high refractive index, high hardness and virtually no tackiness. This appears to be confirmed by the fact that the wax melting at 195 has found relatively wide usage in the polish field as a substitute for the more-or-less higher priced natural waxes. The properties of the paraffin waxes are shown in order to give a comparison between them and the properties exhibited by the microcrystalline waxes.

Literature Cited

1 "Solvent Dewaxing and Wax Manufacturing from Pennsylvania Grade Crude Oil" Hinman, J. M., Forty-seventh National Petroleum Association Meeting, Atlantic City, N. J., September 15, 1949.

2 "Crystal Behavior of Paraffin Wax" Ferris, S. W. and Cowles, H. C., *Industrial & Engineering* Chemistry, 37, No. 11, 1054 (1945).

TABLE I
Effect of microcrystalline on paraffin wax.

Percent Micro In Paraffin Wax	*Melting Point, °F.*	*Durometer Hardness at 95° F.*	*Tensile Strength at 75° F. Lbs. Per Sq. In.*
0	131.8	36	140
5	133.0	36	241
10	133.6	46	253
15	133.4	56	246
20	133.6	54	260
25	134.0	66	271
30	171.7	74	291
35	155.9	74	257
40	167.8	76	254
45	158.8	76	250
50	160.4	74	291

TABLE II
Microcrystalline Waxes.

Melting Point, °F.	*Oil Content, % ASTM D721*	*Refractive Index at 176° F.*	*Penetration at 77° F. ASTM D5*	*Tackiness at 75° F. Lbs. Per Sq. In.*
147	0.7	1.4481	23	85
156	6.7	1.4479	25	80
166	7.3	1.4495	30	70
170	0.9	1.4437	12	6
175	1.5	1.4490	12	0
176	1.7	1.4474	12	20
176	2.7	1.4533	27	95
178	0.1	1.4436	12	6
195	1.0	1.4441	5	0

Paraffin Waxes.

Melt Point, °F.	*Oil Content, % ASTM D721*	*Refractive Index at 176° F.*	*Penetration at 77° F. ASTM D5*	*Durometer Hardness at 95° F.*
130/132	.51	1.4288	25	40
135/137	.40	1.4294	15	85
143/145	.50	1.4295	10	90
162	.50	1.4391	10	88

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NPCA Meets, Elects Sameth

Changing fly habits caused control trouble in 1950, Dr. Bishopp tells group. Warfarin discussed as rodenticide and mothproofing methods outlined by Dr. Ralph Heal. 525 attend.

PART of the difficulties in fly control during 1950 can be attributed to changing fly habits. This opinion was expressed by Dr. F. C. Bishopp, Assistant to the Chief, Bureau of Entomology & Plant Quarantine, USDA, speaking before the 18th annual National Pest Control Association Convention held in Cincinnati's Netherland Plaza Hotel, October 22-25.

Registration for the meeting reached 525, largest in NPCA history. During the concluding business session of this convention, J. Edwin Sameth, a director of Western Exterminating Co., Newark, N. J., was unanimously elected president for the coming year and Robert C. Yeager was re-elected secretary-treasurer.

"Flies were easy on us in 1950," Dr. Bishopp observed. He said we should not become overconfident that the fly problem has been whipped because we were favored with a season that was not too conducive to fly breeding.

Insecticides are not "specific" as far as resistance is concerned — a conclusion assumed two years ago, but now proved to be false. Everyone now appears to have accepted the development of insect resistance to insecticides as a fact and it has been shown that "flies exposed in nature to two or more insecticides as residues, develop a remarkable resistance to most of the insecticides commonly used in fly control," Dr. Bishopp advised. An example was cited in the case of a dairy near Orlando, Fla. in which DDT, methoxychlor, pyrethrum - piperonyl butoxide, and dieldrin failed to give appreciable control.

"Not only do flies protect themselves now from the destructive action of an insecticide by becoming resistant to it, but they also have been observed to change their habits. They now tend to avoid the sprayed surfaces and rest on the floor, out of doors on the grass, weeds and ground, instead of resting on the ceiling and walls of a barn," he continued. Even though flies may leave a sprayed surface because of the irritating effect of the insecticide, it is possible that changed resting habits may be acquired in time without the individual flies contacting the chemical, he said.

Admitting that the Department of Agriculture was disappointed at the lack of clear-cut recommendations regarding the use of insecticides in 1951, Dr. Bishopp did propose some 18 suggestions for fighting flies in the coming year. Among them he emphasized: sanitation through adequate and prompt disposal of all fly-breeding material; the use of adequate screens and perhaps overhead fans to keep flies away from entry ways; eliminating attractive odors and materials in buildings; spraying of exteriors rather than interiors and plans to kill flies before they develop by a general clean up of breeding places. He also recommended that for outdoor spraying DDT, methoxychlor, lindane, benzene hexachloride, toxaphene, or chlordane be employed. Dieldrin is also very effective, but is not yet cleared for general use. Choice of toxicant depends much on whether insecticide-resistant flies are abundant, but DDT may still be used in areas where resistance has not developed. When DDT-resistant flies are present, probably the next choice is lindane, the authority reported.

J. EDWIN SAMETH

In dairy barns, Dr. Bishop recommended the use of lindane or methoxychlor as residual sprays, applying these at the rate of 25 mg. to 200 mg. per square foot, respectively, using a .3 to .5 per cent concentrate. In rooms in which food is handled, he said, it is generally safest to spray or fog with pyrethrum or allethrin with a suitable synergist. Dr. Bishopp's complete address will appear in the December issue of *Soap and Sanitary Chemicals*.

John C. Jones, Branch Predator and Rodent Control, U. S. Fish & Wildlife Service, presented a paper on "New Developments and Techniques in Rodent Control" the greatest part of which was devoted to a discussion of warfarin, the relatively new dicumarin-like rodenticide which kills rats by causing lung hemorrhage. Although the chances for fatal accidents with warfarin are slight, because such a small dosage is used in each of the multiple baitings required, experiments have revealed that one pound of the chemical will kill a dog. It was suggested that the coloring of warfarin be adopted to avoid mistaken identity.

Comparing the effectiveness of this rodenticide on rats with mice, Mr. Jones reported house mice were more difficult to control, probably because there is greater competition for food

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in the limited range mice travel. The possibility of using a double-dose of warfarin in each bait was recommended.

Speaking on mothproofing problems, Dr. Ralph E. Heal, NPCA technical director, said, "Lint is most often attacked by moths because it contains many types of attractive food." The rather general prevalence of lint helps explain the fact that surveys indicate at least 50 per cent of American homes have a moth problem, he commented. Thoroughness of procedure is most important in achieving good moth control, and water based DDT, sodium silico fluoride and the arsenicals are most effective moth chemicals, Dr. Heal concluded.

Dr. Thomas E. Snyder, Senior Entomologist, Forest Insect Investigations, USDA, Beltsville, Md., told termite operators assembled in one of the concurrent meetings that both sanitation and the use of chemical and physical barriers comprise the most important steps in the control of these destructive pests. These are the soil poisons which have proved effective in long time service tests: 10 per cent sodium arsenite in water, one part trichlorobenzene in three parts fuel oil, five per cent DDT in fuel oil, five per cent pentachlorophenol in fuel oil and one part coal tar creosote in two parts fuel oil. Tests are now being conducted, Dr. Snyder reported, with chlordane and BHC to determine their effectiveness for dry-wood termite control in infested exposed timbers, and with the production of heat in wood by radio frequencies to control powder-post beetles.

The importance of safety in the use of all pesticides was emphasized in another address given by Dr. Bishopp later in the program. Accidents can be avoided if we are alert to the hazards connected with their use, he said. Actual toxicological dangers, originally published by Dr. Arnold J. Lehman in the *Quarterly Bulletin, Association of Food and Drug Officials of the U. S.*, Vol. 14, No. 3, page 82, July, 1950, were reviewed with the additional comment that such hazards are not confined only to the growing of fruits and vegetables on farms, but extend all the way through the process of food production until the product reaches the ultimate consumer.

In business sessions of the convention, the principles of public relations, advertising, telephone courtesy, ethics, office management and sound pricing were thoroughly discussed. Two groups were formed, one consisting of firms hiring less than six servicemen, and the other hiring more than six, to study business management problems related to these groups.

It was reported by retiring president Harold E. Jennings that the NPCA now has a net worth of over $50,000 and that instead of ending the year with an anticipated deficit, the association actually came out in the black. This was due mainly to an increased participation of industry members in response to the broadening service program instigated by the NPCA late in 1949.

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Guy M. Churchill Dies

Guy M. Churchill, founder and senior member of the board of directors, Churchill Manufacturing Co., Galesburg, Ill., died September 13, 1950.

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CMI Issues Clip Sheet

Can Manufacturing Institute, Inc., New York, recently released a clip sheet containing 22 insecticide stories, all of which have been sent out as publicity releases in support of the insecticide industry. They have been sent to farm papers and magazines, trade papers, principal radio commentators and women's page editors of principal metropolitan newspapers.

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New Pennsalt Office

Pennsylvania Salt Manufacturing Co., Philadelphia, has announced the opening of a new sales office in the Woolsey Building, 2168 Shattuck Ave., Berkeley, Calif. Making their headquarters at the new office are R. A. Snyder and J. Cameron Siddall. Mr. Snyder is handling technical sales service work for metal and maintenance cleaners in industries of California while Mr. Siddall is in charge of technical sales and service in California, Arizona and New Mexico.

Prof. Exterminators Meet

The next meeting of Professional Exterminators Assn. is to be held Monday evening, November 13 at the Museum of Natural History, New York, at which time the election of officers and directors will take place. The October meeting was held at the same place with Dr. B. F. Rieff as guest speaker. His subject was "The Hoarding Behavior of Rats."

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New Drain Opener

Ampion Corp., Long Island City, has announced a new product for application in opening clogged drains, septic tanks, sinks and toilets. It contains sodium hydroxide and is mixed with water before use.

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New Rax Powder Booklet

A 12-page booklet on "Rax" powder, the warfarin-type rodenticide, was issued recently by Prentiss Drug and Chemical Co., New York. The booklet, which describes warfarin, also states that Rax is stable, odorless and colorless.

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French Honor Dr. Naves

Dr. Y. R. Naves, a research chemist for L. Givaudan & Cie., S. A., Geneva, Switzerland, parent company of Givaudan-Delawanna, Inc., New York, was recently advanced to Chevalier of the Legion of Honor by a decree of the Minister of National Defense. The honor is in recognition of distinguished military services, particularly during World War II. Dr. Naves is an officer of the pharmaceutical and chemical reserve corps of the French Navy. He has been associated with the perfume industry for 27 years.

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Shell-Hyman Association

A statement outlining the working relations between Shell Chemical Corp., New York, and Julius Hyman & Co., Denver, was recently announced by L. V. Steck, marketing vice-president of Shell and J. N. Hall, vice-president and sales manager of Hyman. The statement amplifies the announcement made in June to the effect that Shell is the exclusive agent for domestic sale of unformulated aldrin and dieldrin, made by Hyman.

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CSMA Set to Meet In New York Dec. 4-5

FURTHER details on the program for its 37th annual meeting, to be held Monday and Tuesday, Dec. 4 and 5 at the Hotel New Yorker, New York, were announced recently by the Chemical Specialties Manufacturers Association.

Added to the list of speakers at the general sessions scheduled for Monday morning, Dec. 4 and Tuesday afternoon, is George B. Finch, vice-president in charge of sales of the Jam Handy Co., Detroit, producers of industrial films. He will discuss "Sales and Industrial Training Programs."

The symposium discussion of quaternaries and hypochlorites as disinfectants, to be presided over by Dr. C. K. Johns, senior bacteriologist of the Department of Agriculture, Ottawa, Canada, will be participated in by four speakers. Two speakers in favor of quaternaries will be George Goetchius of Rohm & Haas Co., Philadelphia, and J. W. Klimach of Sterling Winthrop Research Institute, Rensselaer, N. Y. Favoring the hypochlorites will be W. A. Hadfield of Pennsylvania Salt Manufacturing Co., Philadelphia, and Vladimir Dvorkovitz of Diversey Corp., Chicago. A question and answer period is to follow the formal presentations.

The two-day meeting opens officially with the general session on Monday morning, Dec. 4. On that day, too, there is to be a group luncheon, following which group meetings of the association's five divisions are to be held. The day before the official opening of the meeting, the board of governors will gather for luncheon. Various scientific and technical committees also are scheduled to get together on Sunday afternoon. On Tuesday, Dec. 5, divisional meetings, carried over from the previous afternoon, continue until the group luncheon at noon. Following luncheon a general session, devoted mainly to association business, including the election of officers and divisional chairman, is to take place. After that divisional meetings will be held to clear up any unfinished business and hear committee reports. The concluding event of the meeting is the reception and banquet Tuesday evening, Dec. 5.

Melvin Fuld of Fuld Brothers, Inc., Baltimore, is general chairman of the convention, assisted by these representatives of the five divisions: Aerosols, H. R. Shepherd; Disinfectants and Sanitizers, H. Lederer; Insecticides, James Green; Soaps and Detergents, Perry G. Bartlett, and Waxes, C. L. Weirich. Papers tentatively scheduled to be presented follow:

General Session

"Industrial and Institutional Sanitation as a Way of Life" by Walter Snyder, executive director, National Sanitation Foundation, Lansing, Mich.

Joint Disinfectant—Sanitizers and Soap

"New Elements in Sanitation" by Dr. Nathan Sinai, professor of public health, University of Michigan; "Industrial Cooperation in Solving the Navy's Cleaning Problems" by Harry Fleisher, Bureau of Ships, U. S. Navy Dept.; "Sanitation in a Confectionery Plant—Its Problems and Cost" by Fred B. Jacobson, Stephen F. Whitman Co., Philadelphia; "Fluorochromatic Methods of Checking Organic Matter on Restaurant Dishware" by Emil Domingo, Milk Division, New York Department of Health; "Detergent Sanitizers on the Dairy Farm" by Russell G. Puhle, Tykor Products Division, Borden Co.; "Influence of Hard Water upon *In Vivo* Challenge of Disinfectant Activity of Benzal-konium Chloride, U.S.P." by Dr. E. W. Dennis, Sterling Winthrop Research Institute, Renssalear, N. Y.

GEORGE B. FINCH

Soaps (Incomplete)

"Hypersonics" by E. W. Butterworth, J. H. James Brush Development Co., Cleveland.

Waxes and Polishes

"Infrared Spectrophotographic Examination of Commercial Waxes and Polishes" by Philip Sadtler, Samuel P. Sadtler & Sons, Philadelphia; Symposium: "Problems in Purchasing Water Emulsion Waxes" participated in by Warren A. Hough, Travelers' Insurance Co., Hartford; W. H. Joy of American Telephone & Telegraph Co., New York; Patrick Curtin, United Nations, Lake Success; A. Maurice Moore, Department of Purchases, City of New York, D. H. Palmer, Hospital Bureau of Standards and Supplies, New York; Roy Varner, Penn-Mutual Life Insurance Co., Philadelphia; "High Melting Point Petroleum Waxes" by R. F. Scivally, Petrolite Corp., Kilgore, Tex., to be delivered by J. S. Lyal, New York manager; "Amine Emulsifiers for Wax Emulsions" by John L. Eaton, Sharples Chemical Co., Wyandotte, Mich.; "Asphalt Tile Maintenance Problems" by Don Hillier, Johns Manville Co., New York; "Linoleum Maintenance Problems," by D. H. Spitzli, Congoleum-Nairn, Kearny, N. J.; "Effect of Water Waxes on Wood Floors" by Frank H. Lyons, E. L. Bruce Co., Memphis; "Silicones in Waxes and Polishes" by C. W. Todd, Dow-Corning Corp., Midland, Mich.; "Clarification and Purification of Varnishes and Water Emulsion Waxes" by C. M. Ambler, Sharples Corp., Philadelphia; "Mechanics of Walking" by P. C. Sigler, Bureau of Standards, U. S. Department of Commerce; "Cost of Laboratory Testing under Federal Specification 784a" by A. L. Sodergreen, presented by Albert Katz, both of West Disinfecting Co., Long Island City, N. Y.; "'Syrex'—a New Synthetic Wax" by L. P. Wilks, Velsicol Corp., Chicago.

Aerosol Division

"Aerosol Raw Material Situation" by Melvin Goldberg, Pesticide Advisory Service, New York; "Aerosol Spray Paint" by G. F. Dittmar, Hercules Powder Co., Wilmington, Del.; "Corrosion in Aqueous and Alcoholic Aerosol Systems" by N. M. Parmelee and R. C. Browning of E. I. du Pont de Nemours & Co., Wilmington, Del.; "Aerosol Valves" by Wainwright Tuttle, Bridgeport Brass Co.; Insecticide Symposium, Frank Nelson of Esso Standard Oil, New York, presiding: "New Botanical Insecticide, 'Scabrin'" by R. C. Roark, Chief of Investigations, U.S.D.A.; "Status of Dieldrin for Fly Control in 1951" by C. C. Compton, Julius Hyman & Co., Denver; "Recent Developments in Chlordane and Heptachlor" by J. E. Bussart, Velsicol Corp., Chicago; "Comments on New Materials Used as Insect Repellents" and "Recent Information on Chigger Control" by C. N. Smith, U.S.D.A., Orlando, Fla. "A New Method of Pyrethrin in Analysis"

(*To Page* 159)

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TECHNICAL BRIEFS

From Current Literature in the Sanitary Products Field

Bactericidal Efficiency

Studies of the bactericidal efficiency of quaternary ammonium compounds indicate that: (1) the bactericidal efficiency is affected markedly by the nature of the water in which the compound is used. The concentration of active agent required to produce a 100-per cent kill in one minute varies from 15 to 500 ppm. (2) The interference induced by different waters occurs almost instantaneously and does not increase with time of exposure. (3) Temperature of the water has a definite influence on bactericidal efficiency in the range of 12° to 46° C. The higher temperature allows a more toxic action. (4) The hydrogen-ion concentration of the solutions affects toxicity. (5) The presence of various compounds, including the "hardness salts," has a pronounced effect on bactericidal efficiency. Soap, detergents and dissolved gases tend to interfere with the toxic action. *Public Health Report*, 65, No. 33, 1039-1056 (1950).

Synthetic vs. Natural Wax

The difference between the natural ester waxes and synthetic waxes lies in the fact that the latter contain glycols, etc., but do not contain fatty alcohols of high molecular weight in appreciable quantities. Some, therefore, are completely soluble, while others (pseudo-esters) are practically unsaponifiable. *Chim. et Ind.* 63, No. 3, 239-245 (1950).

Insecticide Spray

A preparation for use against flies, mosquitoes, cockroaches, and weevils is prepared from the lower esters of phosphoric acid, phosphorous acid, pyrophosphoric acid, or the corresponding esters of thiophosphoric acids. The esters are dissolved in water, at concentrations of .1 to one part per 1000, and the solution incorporated with a wetting agent. Nitrobenzene and chlorobenzene may also be included in the composition. Another spray for use against flies consists of one part ethyl phosphate or thiophosphate, one part benzene, and 20 parts of kerosene. Fr. Pat. 941,533 through *Chem. Abstracts.*

Rotenone vs. DDT

Investigations as to why DDT in the form of large crystals is easily absorbed through the insect cuticle, while rotenone, under the same conditions, is not, indicate a variation in solubility. DDT is more soluble than rotenone in the outermost (wax) layer of the insect epicuticle, and the critical crystal particle size at which the solubility in wax increases is different for DDT as compared wtih rotenone. *Chem. Trade Journal* 127, No. 3299, 435 (1950).

Fungicides for Textiles

Few fungicides are uniformly suitable for treating a wide range of materials. Chromium and iron salts have been found satisfactory for cotton fabrics. The treatment consists of boiling the material in the chromium-iron salts solution and then immersing in hot sodium chromate. Chromium is ineffective as a fungicide unless present in hexavalent form. Chromium and copper salts are used in treating sewing thread.

Copper naphthenate, because of the presence of the naphthenic radical is generally considered to be the most efficient fungicide of the copper compounds, and to have the greatest toxicity to the mildewing fungi. Zinc naphthenate is inferior to copper naphenate, has a bad odor, and is limited in its application. Paranitrophenol has moderate fungicidal activity and is effective at concentrations of about .05 percent. Because of the possibility of dermatitis, it is not used in concentrations above .4 per cent. 3,4, pentachlorophenols are toxic to fungus at concentrations of .01 per cent, however, the main disadvantage of this type of compound is that it leaches readily from materials, and is corrosive to metals. *Manuf. Chem.* 21, No. 7, 291-293 (1950).

Phenolic Resin Waxes

Wax manufacturers have found many advantages in using the terpene phenolic resins in formulations of liquid, self-polishing wax products for floors and furniture. The resins are compatible with carnauba and microcrystalline waxes; may be used to the extent of 25 to 50 per cent of the total wax content of the product; and are available in a reasonably wide range. They tend to lower manufacturing costs, exert no corrosive effect on tin or other containers, and are unaffected by new emulsifying agents, such as 2-amino-2methyl-1-propanol. Both the high (135° C.) and low (100° C.) melting point resins are recommended for use in wax products. They increase the hardness and also improve slip resistance of the deposited wax film. *Chemical Age* 63, No. 1623, 263 (1950).

BHC Insecticide

Benzene hexachloride in the dry form is diluted with talc, gypsum, or bentonite. It is used also as an aqueous suspension, or in the form of a solution in an organic solvent. White crystalline hexachlorocyclohexane, containing 13 to 15 per cent of the gamma isomer is obtained by chlorination with a catalyst other than light. Ital. Pat. 442,245, through *Chem. Abstracts.*

Phenylmercuric Fungicides

The phenylmercuric derivatives of Fixtan-Acids, as the disulfonated diaryl alkanes such as 2,2′-dinaphthylmethane-3,3′-disulfonic acid, have good fungicidal properties for textiles, wood, leather, etc. After drying, the fungicide is irreversibly fixed to the article. The compound is not irritating to the skin in concentrations of five per cent. *Farben, Lacke Anstrichstoffe* 4, 160-126 (1950).

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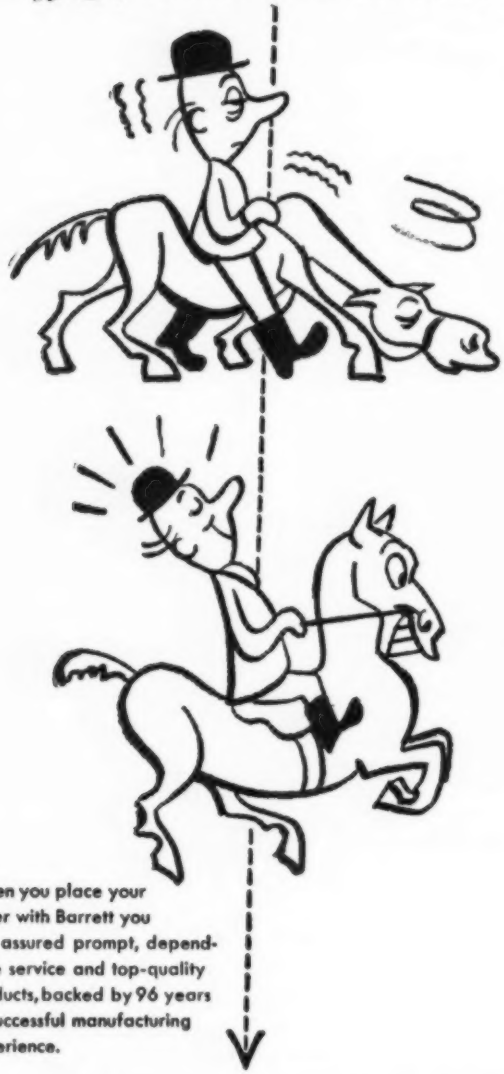

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BHC Resistant Flies

Tests with the *Musca domestica vicina* strain of flies in Egypt indicated a resistance to spray deposits of technical benzene hexachloride (20 per cent gamma isomer). The male flies developed a greater resistance than the females. *Science* 111, 651-652 (1950).

Chem. Specialty Perfumes

Jasmin-rose type perfumes may be incorporated in para household deodorants, or in the moth repellents and effect adequate odor coverage. Furniture polishes and other polishes may be scented with lemongrass, citronella, cedarwood, pine, clove and cassia oils, terpineol, and saffrole, and geraniol. The odor of kerosene is difficult to mask, but can be covered effectively with balanced combinations of terpineol or terpinolene, terpinyl acetate, traces of thymol bornyl acetate, coumarin, etc. A lilac blend is suggested for shoe polishes, and manufacturers are advised that there are many safe and pleasant alternatives to oil of mirbane. Products with formaldehyde, as the cleaners for telephone mouthpieces and theatre sprays, may be formulated with pine, reinforced lavender, heliotrope, lilac, fruity and oriental vanilla type perfumes. *Alchimist* 4, No. 8, 187-193, and No. 9, 23,215 (1950).

DDT vs. Resistant Flies

DDT resistant flies are susceptible to DDT if treated with topical application of piperonyl cyclonene in acetone solutions. The synergistic effect of the piperonyl cyclonene appears to be an interference with the detoxification process present in resistant strains of flies. Investigations consisted of applying the DDT-acetone-piperonyl cyclonene mixture, and rinsing the treated flies in chloroform to remove the surface adhering DDT. The flies were then ground, and extracted with chloroform. DDT in the extract was determined by the colorimetric Schlechter-Haller method. A product believed to be 2,2-bis(p-chlorophenyl -1,1-dichloroethylene, a degradation product of DDT, was found in the flies. A larger amount of this product was found in the flies that survived than in those that died, indicating that resistance to DDT may depend on the ability to make this degradation product. The piperonyl cyclonene is believed to interfere with this conversion. *Science* 111,500-601 (1950).

Rodenticides

Experiments with sodium fluoacetate as a rat poison indicate this compound is probably more effective than other poisons in direct application against rats. However, the fluoacetate does not give consistent results, and is too dangerous for general use. *Jour. of Hygiene* 47, 426-30 (1949).

Antimycin A as Insecticide

Studies of Z antimycin A indicate that this optically active nitrogenous phenol acts as a stomach poison against some pests, as a repellent or toxicant against other insects. Against houseflies, a mortality of 38 per cent was obtained with a preparation containing 10 p.p.m. of antimycin, when ingested by the flies. However, a spray of the same concentration was ineffective. Wool impregnated with a 10 p.p.m. preparation of the compound repelled the black carpet beetles, but was not effective against webbing clothes moths. Tests showed that antimycin A is 100 times more effective in protecting wool fabric than sodium aluminum fluosilicate. *Science* 112, 172-3 (1950).

Wax Penetration Method

A new method for determining the consistency of petrolatum and waxes has been developed, which takes only 25 minutes to complete using a 10 cc. sample. A conversion factor interprets the data in terms of A.S.T.M. figures. The A.S.T.M. penetration method takes five hours using an eight ounce sample.

The sample is poured into a brass cylinder (24 mm. inside diameter, 29 mm. high with a three mm. wall thickness), which in turn rests on a glycerine wetted glass microscope slide. When the sample sets up—requiring about 10 minutes—it is immersed in water at 77°F. for 15 minutes. The cylinder is then slipped off the glass slide and the plane surface, which was adjacent to the glass slide, serves as the top of the sample. Penetrations are made with a small weighted stainless steel cone of 45° angle.

The A.S.T.M. penetration value equals 2.0 times the micropenetration (for samples with A.S.T.M. penetrations less than 150). The same method applies for waxes, except that the A.S.T.M. needle is used instead of the microscope. A. Kinsel, *Chemical Products* 13, No. 2, 61-62 (1950).

Charles Drane Dies

Charles S. Drane, 61, vice-president in charge of advertising for Plough, Inc., Memphis, died in Battle Creek, Mich., recently after a long illness. He had been connected with Plough for 20 years.

Product Liability

(*From Page* 39)

nothing inherently dangerous in a bar of soap."

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6. Bush v. Bookter, 47 So. 2d 77
7. Barrango v. Hinckley Rendering Co., 119 N.E. 746
8. Hasbrouck v. Armour & Co., 121 N.W. 157
9. Carter v. Yardley & Co., 64 N.E. 2d 693

Buffalo Market

(*From Page* 113)

anxious to change. However, they are alert to trends and willing to be shown worthwhile new products. In most cases these men and women have learned to depend on the materials furnished by certain manufacturers and are more willing to try new products of these companies than those of strange manufacturers. An alert salesman may find a ready market for a new product with an old customer. In all cases it means that considerable personal contact with the customer is necessary.

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Trade Marks

(From Page 67)

Bromox — This for cleaner for water filter. Filed Oct. 13, 1947 by Sterne and Maley Co., Chicago, Ill. Claims use since Feb. 1, 1947.

Ethomeen — This for detergent and emulsifier. Filed May 4, 1948 by Armour and Co., Chicago. Claims use since Jan. 27, 1948.

Ethomid — This for detergent and emulsifier. Filed May 4, 1948 by Armour and Co., Chicago. Claims use since Jan. 26, 1948.

Steralyzel — This for cleansing and sterilizing preparation. Filed Nov. 2, 1948 by Harcourt-Howard Corp., Nashville, Tenn. Claims use since June 8, 1948.

Vigil — This for general antiseptic. Filed Feb. 14, 1949 by Patek and Co., San Francisco. Claims use since Nov. 1, 1948.

Hollywood — This for shoe polish. Filed May 21, 1948 by Hollywood Shoe Polish, Inc., Richmond Hill, N. Y. Claims use since Apr. 21, 1948.

Brillium — This for optical bleach. Filed Feb. 24, 1949 by Morey Larue Laundry Co., Elizabeth, N. J. Claims use since Nov. 29, 1948.

Tenodil — This for insecticide and rodenticide. Filed Dec. 24, 1949 by Monsanto Chemical Co., St. Louis, Mo. Claims use since Dec. 8, 1949.

Melsan — This for bactericide. Filed Jan. 6, 1950 by E. I. du Pont de Nemours & Co., Wilmington, Del. Claims use since Nov. 8, 1949.

Scan—This for general cleaner. Filed Dec. 12, 1947 by Theobald Industries, Kearny, N. J. Claims use since Nov. 26, 1947.

Carey—This for sweeping compound. Filed May 11, 1948 by Philip Carey Mfg. Co., Cincinnati. Claims use since Aug. 1, 1888.

Caper—This for skin cleanser. Filed July 19, 1948 by Nopco Chemical Co., Harrison, N. J. Claims use since May 5, 1948.

Aluminol—This for aluminum cleaner. Filed Oct. 25, 1948 by Gordon Chemical Co., Philadelphia, Pa. Claims use since Oct. 20, 1948.

Scan—This for wax base cleaner. Filed Sept. 27, 1948 by S. V. Cain, Inc., Peoria, Ill. Claims use since Jan. 8, 1947.

By-U—This for soap and soap powder. Filed Feb. 9, 1949 by Bayou Industries, Inc., Arabi, La. Claims use since 1942.

Pactivex — This for synthetic detergent. Filed Feb. 28, 1949 by Publicker Industries, Inc., Philadelphia, Pa. Claims use since Feb. 2, 1949.

Trigger—This for soap powder. Filed Mar. 7, 1949 by Essential Chemicals Co., Milwaukee. Claims use since June 14, 1948.

Dican—This for liquid metal cleaning compound. Filed Apr. 1, 1949 by Diversey Corp., Chicago, Ill. Claims use since Jan. 3, 1949.

Lavekol — This for laundry cleansing agent. Filed May 7, 1949 by General Dyestuff Corp., New York. Claims use since June 27, 1929.

All-Water—This for soap. Filed July 12, 1949 by Kresge-Newark, Inc., Newark, N. J. Claims use since Dec. 26, 1931.

Village—This for soap powder. Filed Nov. 30, 1949 by General Biochemicals, Inc., Chagrin Falls, O. Claims use since Nov. 14, 1949.

Fly-Nix—This for insecticides. Filed Jan. 30, 1948 by Western Chemical Co., St. Joseph, Mo. Claims use since Dec. 20, 1926.

Resid-u-nox—This for insecticide. Filed July 28, 1948 by Farnam Co., Omaha. Claims use since Apr. 15, 1948.

Penesote—This for wood preservative. Filed Dec. 9, 1948 by Interchemical Corp., New York. Claims use since Nov. 16, 1948.

Pix Brite — This for polish, cleanser and soap. Filed Sept. 17, 1947 by Albert Pick Co., Inc., Chicago. Claims use since 1914.

I-Nox—This for general household cleaner. Filed Oct. 5, 1948 by Home Pride Products, Leaksville, N. C. Claims use since Sept. 1, 1937.

Swash — This for toilet bowl cleaners. Filed Jan. 21, 1949 by Ellis H. Dennett, Sudbury, Mass. Claims use since Dec. 10, 1948.

Shur Wonder-Whyte—This for cleaner for white wall tires. Filed Feb. 10, 1949 by Shur Gloss Mfg. Co., Chicago. Claims use since Jan. 2, 1949.

E.Z.C.—This for concentrated glass cleaner. Filed Feb. 21, 1949 by John Sexton Co., Chicago. Claims use since Jan. 19, 1949.

Klemex—This for metal cleaning composition. Filed Mar. 1, 1949 by Klem Chemicals, Inc., Dearborn, Mich. Claims use since Jan. 1, 1946.

Misekreto—This for toilet soap. Filed June 29, 1949 by Monte Alto Co., New York. Claims use since June 2, 1949.

Vex—This for liquid, soapless detergent. Filed July 9, 1949 by Schaeffer Mfg. Co., St. Louis. Claims use since Apr. 19, 1949.

Silver Snow — This for soap powder. Filed July 5, 1949 by Kendall Co., Corpus Christi, Tex. Claims use since July 24, 1946.

Pebel — This for soap. Filed Aug. 12, 1949 by Sophia Swartz, New York. Claims use since July 28, 1949.

Johnson's—This for wax products in liquid form for polishing floors, etc. Filed Aug. 18, 1947 by S. C. Johnson & Son, Inc., Racine, Wis. Claims use since May 4, 1946.

Tire-Wite — This for pumice soap for cleaning automobile tire walls. Filed Aug. 7, 1947 by Los Angeles Soap Co., Los Angeles. Claims use since July 11, 1939.

Bub-L—This for synthetic detergent for cleaning metal and nonmetal surfaces. Filed May 15, 1948 by Whitfield Chemicals, Detroit. Claims use since since Oct. 7, 1947.

Clipper Cleaner—This for inorganic detergent for general washing purposes. Filed July 22, 1948 by Diamond Alkali Co., Cleveland. Claims use since Oct. 1, 1947.

Klass—This for soap and detergent used as deodorant cleaners. Filed May 19, 1949 by Emil C. Horn, Milwaukee. Claims use since June 22, 1948.

Colsilbra—This for liquid preparation for cleaning metals. Filed Aug. 3, 1949 by Burke & Hancock, Orlando, Fla. Claims use since June 15, 1949.

Purit—This for antiseptic, disinfectant, deodorant, etc. Filed Aug. 20, 1949 by John Heinzkill Soap Works, Appleton, Wis. Claims use since July, 1926.

Swash—This for cleaning compound for lavatory bowls and hoppers. Filed Jan. 22, 1949 by Harry Butters, Boston. Claims use since Jan. 19, 1949.

Monsanto Names Curtis

Francis J. Curtis, vice president and director of Monsanto Chemical Co., St. Louis, and secretary of the company's executive committee, has been appointed director of industrial preparedness for the company with headquarters in Washington, D. C.

Rodent Control Procedure

Issuance of "Recommended Procedures for Rat Control" by the Fumigant Board of the Department of Health of the City of New York was announced recently. Hearings on the procedures were to be held Nov. 9. Owner-operators of pest control firms were invited to attend to participate in the discussion of the program. The procedures were submitted to the Fumigant Board by Col. W. A. Hardenburgh, director of the Rodent Control Coordinating Unit.

The procedures are to be used as a standard for the guidance of the private pest control operator, as well as Department of Health personnel engaged in rodent control work; for incorporation in contracts concerning rodent control work; as a uniform basis for bids on such contracts, and to insure a satisfactory minimum level of performance and results.

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Wood Preservatives

(*From Page* 119)

tion of the preservative and to dilute it with the desired solvent. According to Blew (12) solutions of varying concentrations are available for dilution with two or more parts of solvent to prepare the five per cent treating solution.

Solvent Selection Important

THIS authority also calls attention to the fact that the selection of the solvent is an important consideration, one that is greatly influenced by the end-use of the wood. For treatments requiring a clean, paintable surface, light colored vehicles are used, such as naphtha, mineral spirits, or kerosene. Where such properties are not essential, as in fence posts or rough lumber, the darker colored materials and lower priced petroleum oil solvents can be used. Even used crank case oil, if reasonably clean, can serve. Blew likewise observes that "bloom" preventives, like ester gum, should be added to pentachlorophenol solutions made with volatile solvents. This serves to prevent the formation of irritating crystals of the preservative on the wood surface after treatment.

Under investigation and showing considerable promise as a wood preservative, (18, 36) copper naphthenate has the disadvantage of imparting a green color to the treated wood. Standards for the compound have been developed and a committee of the A.W.P.A. has recommended that treating solutions made with copper naphthenate be required to have a copper metal concentration of not less than 0.7 per cent.

Zinc naphthenate has also attracted attention as a wood preservative. Proposed standards (TS-4859) for zinc naphthenate wood preservatives for spray brush and dip application have been circulated to the industry by the National Bureau of Standards. Wood preservative compositions based on this compound have been patented. (37)

It is rather interesting to note that, as is the case with certain drugs and insecticides, synergistic effects can be obtained with wood preservatives. This was observed in soil block tests in which three fungi were employed to measure preservative power. It was found (20) that less creosote, copper naphthenate and pentachlorophenol were needed for equally effective preservations when they were used in mixtures than when they were used singly. This finding presents some interesting possibilities.

Of course, many compounds other than those mentioned are being studied for their value as wood preservatives. Seldom is it more true, however, that only time can prove the worth of these substances.

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Clorox Reports Earnings

Net income of the Clorox Chemical Co., New York, for the first six moths of 1950 was $1,818,221, equal to $5.53 a share, compared with $1,525,628, or $4.64 a share, for the corresponding period of the previous year.

Expands Toxaphene Sales

Hercules Powder Co., Wilmington, recently announced that two new entomologists, Ronald Chase and Spencer Ed Cook, Jr., have joined the company's toxaphene group in Wilmington. Both are June graduates of Texas A & M College. At the same time, the company announced that J. H. Neal, previously toxaphene technical representative in Wilmington, has been transferred to the organization's Atlanta headquarters. Norman Downey, who became a member of the toxaphene group earlier in the year, has been named resident salesman at the naval stores office at 205 S. 32d St., Birmingham, Ala. In addition to the sale of toxaphene, the new office in Birmingham will handle other naval stores products, including pine oil.

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Toilet Soaps

(*From Page 49*)

during use. The best results are obtained by reducing lateral displacement during stamping to a minimum. The plodded billet of soap should approximate in section as closely as possible to the section of the finished cake or bar. This means, of course, that suitable plodder dies should be provided for every variation in soap cake size. Cushion-shaped ovals and oblongs are likely to exhibit maximum freedom from cracking, simply because they call for minimum distortion and surface displacement in the stamping dies—but rectangular shapes of the flat or recessed oblong type can also be stamped quite successfully, provided that curved lines are used in their design in place of sharp angles. The soap blanks should be cut to the full length of the die in which they are to be stamped, in order to avoid unsightly compression marks. The accumulation of a certain amount of cut-off waste is to be preferred to the false economy of producing disfigured tablets, but in general the ideal to be aimed at is close coordination of the shape of the plodder orifice and that of the mould of the stamping machine.

Hand stampers and automatic presses both need extreme care in setting up and maintenance. Worn or damaged dies should be tapped out without delay, trimmed and refitted.

As a lubricant to prevent the soap sticking to the dies, either brine or a 50 per cent glycerin solution is employed. The largest makers appear to use brine only for this purpose—but it should be applied only sparingly (as with a damp sponge).

The formation of a slightly dry "skin" on the soap blanks assists in securing efficient stamping, free from any marked tendency to stick to the moulds. Such a skin is produced if the soap is allowed to stand for a half-hour or so after being plodded. On the other hand, it is not desirable that this standing period should cause the soap to become too cold: hence, of course, the necessity for care in ensuring a degree of temperature control and the utility of the pre-stamping conditioning chamber referred to above.

Toilet soap should never be wrapped, however, until it has cooled throughout to at least room temperature. In some plants the tablets are passed from the stamping presses to a cold air chamber surrounded by chilling coils or devised on refrigerator lines. Soap has a relatively low thermal conductivity and the center of a cake or bar may still be warm long after the exterior surface has cooled. If soap that is still warm at the core is enclosed by wrappings, it will eventually "sweat" or "bloom," in addition to damaging the wrapper. After stamping, therefore, the soap is conveyed to trays or racks, in order to cool and dry off before wrapping.

Most toilet soap is given three separate wrappings: a waxed paper wrap, a supporting card, and a printed outer wrapper. Efficient wrapping machines (usually American) will handle all these wrappings and glue the ends of the package, at speeds in excess of two packs per second.

In smaller plants and for special, short-run types of soap, hand-wrapping methods are employed. The most difficult part of the latter procedure is the gumming of the end-flaps, but this is usually done with paste and brush, the wrapped cakes being placed in a long, narrow, shallow box, the width of which is equal to the length of the cake. In this way the gummed ends are held firmly in position until the adhesive has set.

Plain twist-wrapping and pleat-wrapping with cellulose film may also be carried out by hand. A new British device of the semi-automatic type increases considerably the production rate of the operative and also noticeably improves the appearance of the pleat-wrapped soap. This device consists essentially of a large "mechanical iris" of the photographic type, which brings each piece of cellulose foil together over the cake of soap in a series of even pleats—all this being accomplished by the simple depression of a lever. Another movement serves to eject the wrapped soap, which is then finished off by the application of a suitable adhesive seal to secure the pleats.

The printed outer wrappers used in the packaging of toilet soaps have frequently proved troublesome from the various points of view of (a) discoloring the soap; (b) discoloring the wrapper; and (c) fading or discoloring the ink used on the wrapper. A British firm, for example, found that their outer wrapper caused discoloration of the ends of the soap:

"The cake was wrapped first in a greaseproof inner wrap and then in a cardboard liner, both going round the sides of the cake but leaving the ends to be protected only by the unprinted, sealed ends of the outer wrapper. On exposure to bright light for a week or very weak light for a month, the ends of the cake became discolored. The paper used for the outer wrapper was a yellow, lightly coated, supercalendered stock. The same trouble did not arise with uncoated papers." Suggestions were made that this trouble was probably due to SO_2, present either in the paper or to some SO_2—bleached gelatin used in the preparation of the paper size or coating—but at the time of writing, despite work carried out by paper making and printing trade associations, the problem remains virtually unsolved. Two ways of overcoming the difficulty would, of course, be the use of a suitable alternative type of paper for the outer wrapper, or the complete wrapping (both sides and ends) of the soap cake in the inner greaseproof wrap, so that the ends do not come in contact with the outer.

The testing of soap wrappers and cartons for mechanical, physical and chemical efficiency is a matter of considerable practical importance. In the U. K. it enters the province of the Printing, Packaging and Allied Trades Research Association, while in the U. S. A. it continues to receive the careful attention of the American Oil Chemists' Society, T.A.P.P.I. and indirectly of the A.S.T.M. A recent study of experimental work on this subject is worth quoting by way of conclusion. (1)

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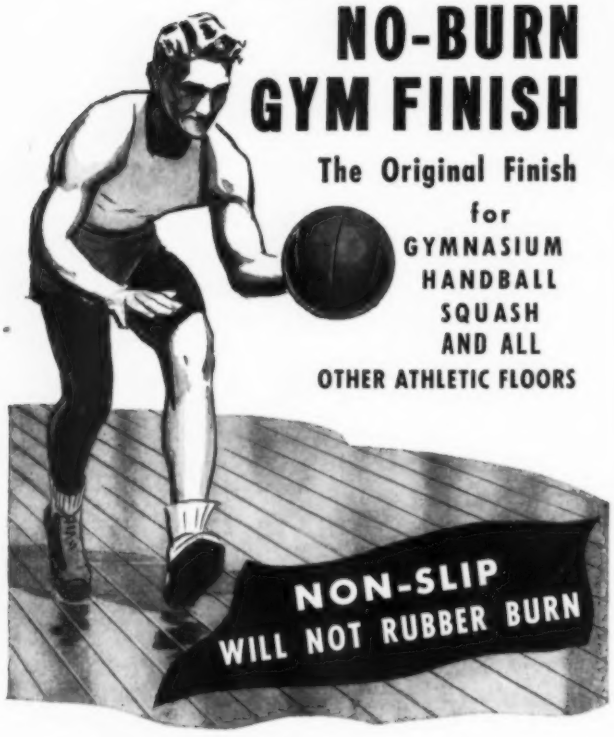

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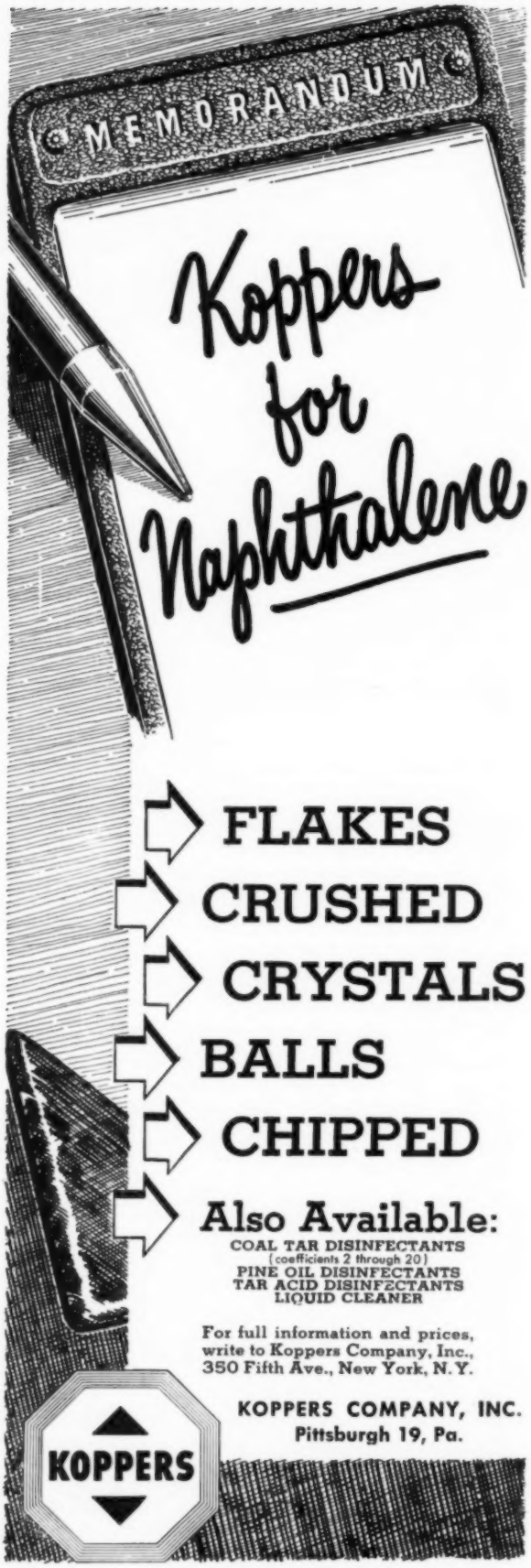

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TRADE NEWS

In Boyle-Midway Posts

The appointment of E. A. DeBaggis as national sales manager and Robert S. Wheeler as advertising and sales promotion manager was announced recently by Boyle-Midway Inc., New York. Mr. DeBaggis was formerly assistant national sales manager. Previously he had been with Lever Brothers Co., New York.

Mr. Wheeler recently joined the firm as sales promotion manager. He was formerly with Wilbert Products Co., New York.

Weiser McCormick V.-P.

Bernard Weiser, director of general sales of McCormick & Co., Baltimore, for the past four years has been elected vice-president in charge of sales, it was announced last month by Charles P. McCormick, president. Mr. Weiser gave up his own administrative service business in 1944 to join McCormick. Previously he had been associated with American Radiator Co., as assistant to the vice-president.

In January, 1946, Mr. Weiser was elected to the McCormick board of directors, after serving three times as chairman of the company's junior board of executives. Earlier this year he was named a vice-president of McCormick Overseas Co., export division of the parent company.

Five men not actively associated with the McCormick organization were recently appointed to its advisory council by the company's board. They include among others, U. S. Senator Herbert R. O'Conor, a former governor of Maryland.

Harrison Names Buhler

C. W. Buhler, assistant treasurer and secretary of A. S. Harrison Co., South Norwalk, Conn., was recently elected to the board of directors. He has been with the firm since 1946, and since moving to South Norwalk, Mr. Buhler has been in charge of the factory operations. He was formerly associated with McKesson & Robbins, Inc., in charge of manufacturing and, subsequently, distribution costs. He served in the European Theatre with the Army in World War II, holding a captain's rank. Mr. Buhler is a 1936 graduate of Yale.

C. W. BUHLER

Johnson Glee Club Wins

The Men's Glee Club of S. C. Johnson & Son, Racine, Wis., took first place in the men's chorus class at the Chicagoland Music Festival, sponsored by the *Chicago Tribune* in Chicago recently.

ALLETHRIN OK FOR AEROSOLS

The acceptance of allethrin in aerosols has just been announced by the U. S. Department of Agriculture. Formulas containing allethrin have been accepted for use in gas-propelled aerosols, following studies of the effect on inhalation of allethrin, a bulletin issued by the Bureau of Entomology and Plant Quarantine and signed by S. A. Rohwer, assistant chief, states. According to the bulletin, allethrin is comparable in freedom from toxicity with the pyrethrins which have been used as an ingredient in aerosols. The material performs effectively against mosquitoes, house flies and other common household insects, according to the U.S.D.A.

In accepting formulas containing allethrin, it will be required that the material used be of a purity not less than 75 percent allethrin. The allethrin content of the commercial product used in preparation of the aerosol should be indicated as determined by the hydrogenolysis method of analysis, which was recently accepted as the tentative method of analysis of commercial allethrin.

New Simoniz Polish

Limited test marketing of a new silicone type polish for automobiles is now underway on behalf of "Bodyguard," latest addition to the line of Simoniz Co., Chicago.

Fisher Joins Mich. Chem.

Lewis E. Fisher, formerly connected with New York metropolitan sales of Westvaco Chemical Division, Food Machinery and Chemical Corp., New York, has recently been named to represent eastern chemical and industrial sales for Michigan Chemical Corp., St. Louis, Mich., with offices at 230 Park Avenue, New York.

NSSA Cleveland Meeting

A fast sellout of display space for the 28th annual convention and merchandise show of the National Sanitary Supply Association was predicted recently by Leo J. Kelly, executive vice-president. The 1951 show will be held June 3, 4, 5, 6, at the Cleveland, Ohio, Municipal Auditorium. Convention headquarters will be the Hollenden Hotel.

N. E. PCO's Joint Meeting

A joint meeting of the New England Pest Control Association and the Connecticut Pest Control Association will be held at the Hotel Sheraton, in Worcester, Mass., the evening of Nov. 16. The meeting will be a "suppliers' night" affair, at which suppliers are to be given the opportunity to display and discuss their products. More than 20 supply firms have indicated their intention to participate. Both associations will hold business meetings, following dinner.

George W. Dyer of Rose Exterminator Co., Hartford, will preside over the meeting of the Connecticut Association, of which he is president. The New England Pest Control Association, at its meeting, to be presided over by Kenneth N. Cook, president, will elect a nominating committee to choose a slate of officers for the coming year.

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Prentiss Changes Name

R. J. Prentiss & Co., New York, recently announced that it had changed its corporate name to Prentiss Drug & Chemical Co. The change, according to Harold R. King, president, is merely one of name and does not involve any change in business policy, management or personnel.

At the same time, Mr. King, announced the removal of the Prentiss insecticide plant to new and larger quarters. Formerly located in Newark, N. J., the insecticide manufacturing division is now in a building adjacent to the present Prentiss chemical and botanical processing plant at 261 King St., Brooklyn. The move consolidates all of the Prentiss manufacturing operations at the new address, 253-261 King St.

Wax Importers Elect

George S. Hamilton of Innis Speiden & Co., New York, was recently elected president of the American Wax Importers and Refiners Association. Other officers include Charles S. Bullock of Strahl & Pitsch, Inc., vice-president; John J. Garvey, Mamaroneck Chemical Corp., secretary, and Edward Schumacker of F. W. Steadman Co., treasurer.

Mich. Chem. Rodenticide

A new rodenticide, to be marketed under the name "Ratmaster" was introduced recently by Michigan Chemical Corp., St. Louis, Mich., and marks the company's entry into the rodenticide field. The new product contains the active ingredient warfarin. It is packed in ½ pound packages, 12 to a case, and also in 50 pound bulk packages for the pest control industry and other large commercial users. A half-pound is said to be sufficient for 10 pounds of prepared bait, which may be corn meal, meat scraps or other dry food.

Hemmert in Stanley Post

The appointment of John Hemmert as works manager of its Easthampton, Mass., plant was announced recently by Stanley Home Products, Inc., Westfield, Mass. He is working under the guidance of J. W. Palmer, who, as assistant general manager, has

JOHN HEMMERT

been in charge of the Easthampton plant. In his new post, Mr. Hemmert is responsible for the maintenance and construction departments and for all of the production departments. He was formerly factory manager for Chance - Vought Corp., Bridgeport, Conn.

New West Floor Product

"Antiseptic Westone," a new liquid product for the elimination of dust in floor care, was announced recently by West Disinfecting Co., Long Island City, N. Y. The product is said to have bacteriostatic properties. It is said not only to remove dust from floors, but also to leave an antiseptic film. "Antiseptic Westone" is also designed to hold down subsequent dust and to seal the floor.

New Calo Appointment

The appointment of Paul H. Eliot as a sales representative was announced recently by P. E. Calo, president, Philip E. Calo Co., Chicago.

Sales Clinic Cancelled

The first Chemical Sales Clinic, sponsored by the Salesman's Association of the American Chemical Industry, which was to have been held in November at the Hotel Roosevelt, New York was cancelled because of the unsettled conditions, it was announced recently.

New Floor Care Booklet

A new folder containing instructions and recommendations on the proper care and maintenance of floors was released recently by the Asphalt Tile Institute, 101 Park Ave., New York 17. Single copies are available free. The folder gives simple rules for cleaning and waxing of asphalt tile and other resilient floors.

Nylon in Aerosols

The use of nylon in valves of aerosol bombs was reported recently. Its application is said to help overcome the corrosion problem particularly in cosmetic aerosol units.

Sees '51 Pyrethrum Tight

The possibility of higher prices on pyrethrum for the coming year, a tight supply, though no worse than in 1950, increasing demand for the material and the limited availability of allethrin were predicted in a recent bulletin on pyrethrum issued by U. S. Industrial Chemicals, Inc., New York. According to the bulletin, which is signed by Russell B. Stoddard, coordinator, insecticide division of U. S. I., considerable confusion exists regarding the pyrethrum situation for the 1951 season.

"Barring unforeseen contingencies, the availability of pyrethrum for 1951 use in the United States will be at least as good for the 1950 season, except as it may be affected by military requirements which, at the moment, appear unlikely to reach any astronomical proportions," the bulletin states. It further points out that "If there is a genuine shortage, and there is no doubt that one exists, it is due not to reductions in supply but to increasing demand. . . ."

On the question of price, the bulletin states that "growers in Africa, including both Kenya and the Belgian Congo . . . have indicated lower prices for late 1951 delivery. This anticipated reduction, however, will not come in time to have any effect whatever on 1951 consumption in this country (U. S.). In the meantime, increased costs of handling and processing may force a slight increase in price on pyrethrum products."

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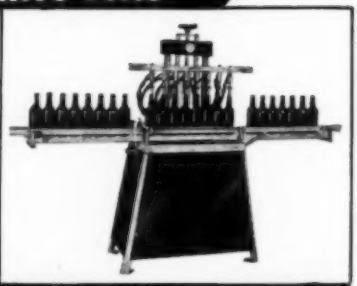

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Buy DDT for Far East

The Economic Cooperation Administration announced recently that the Federal Supply Service has been authorized to buy $135,000 worth of DDT from United States or Japanese sources for Indo-China and Indonesia. The supplier must have the material ready for shipment within 30 days after receipt of the order. Indo-China will receive $115,000 worth of the DDT and Indonesia $20,000.

Package Cleanliness Report

Dr. Louis C. Barail, head of the department of biology and bacteriology of the United States Testing Co., Hoboken, N. J., recently stated that the packages of today can be cleaner than the foods they contain. In his paper entitled "Mildew Protection," presented at the Packaging Forum in New York last month, Dr. Barail described for the first time the results of research involving the comparative testing of more than 420 antiseptics. His conclusions are that certain packaging materials susceptible to bacteria or mold growth can be so treated as to be germ and mold resistant, and therefore protect the goods that they contain. These tests were conducted for various Government agencies and also for manufacturers and users of packaging materials.

Amer. Home Dividend

A year-end dividend of 80 cents and a quarterly dividend of 10 cents on the common stock, both payable Dec. 1, were announced recently by American Home Products Corp., New York. The firm disbursed 50 cents as a year-end dividend in 1949.

Roth to Com'l Solvents

Dr. Roger W. Roth has recently joined Commercial Solvents Corp., New York, as entomologist. Dr. Roth is to work with Federal and State Experiment Stations and insecticide manufacturers on the new CSC products designed for use in the insecticide and related fields.

A graduate of the New York State College of Forestry at Syracuse with a major in Forest entomology, Dr. Roth received his doctorate in economic entomology from Cornell

DR. ROGER W. ROTH

University. For several years he served with the department of entomology at Cornell and conducted experimental work. Prior to joining CSC, Dr. Roth was entomologist for Bell Aircraft Corp. He is a member of the American Association of Economic Entomologists and the American Mosquito Control Association.

Midland Ammonia Head

The election of Dr. Ralph M. Hunter as president of Midland Ammonia Co., Midland, Mich., a subsidiary of Dow Chemical Co., Midland, was announced recently. He succeeds D. R. O. Barstow, a vice-president of Dow, who retired from the Midland Ammonia post. Dr. Hunter was formerly manager of Dow's electrochemical division.

Clorox Expands Units

Plans for construction of a new 30,000 square foot plant in Kansas City, to be in operation in about six months to serve Kansas, Missouri, Oklahoma and Colorado, was announced by Clorox Chemical Co., Oakland, Calif., recently. A similar plant is scheduled to be completed soon in Camden, N. J. The firm which has ten units in operation now is planning to establish additional plants at several other locations throughout the country. Mounting costs of transportation and warehousing were attributed as the reasons for the company's decentralization policy.

Monsanto Licenses "Penta"

Monsanto Chemical Co., St. Louis, recently registered a brand to identify construction lumber and wood preserved against decay and insects with the company's "Penta", an oil-borne wood preservative accepted as standard by the American Wood Preservers Association.

The brand, "MP", will be licensed to plants qualified to render treatment by the vacuum-pressure process in accordance with specifications being established by the company. The identifying mark is to be indelibly stamped on each piece meeting the specifications.

K. R. Fox, manager of the Monsanto organization's wood preservative sales department, said that the specifications would require "Penta" equivalent to a minimum retention of six pounds of five per cent pentachlorophenol solution per cubic foot of wood, varying with the type of wood and intended use.

New Non-Slip Wax

A new non-slip product, "Kengrip Wax", was announced recently by David E. Kennedy, Inc., Brooklyn, manufacturers of asphalt tile and cork tile flooring. According to Charles Neumann, vice president and general manager, the product was designed especially to reduce the hazards of slips and falls on floors.

New Empire Brush Line

A new line of heavy duty maintenance brushes with Emprene plastic bristles was announced recently by Empire Brushes, Inc., Port Chester, N. Y. This is the first time Emprene plastic bristles have been used for industrial brushes. The material is waterproof and washable and because of its resilience is said to be ideal for cleaning cement and similar surfaces.

Empire's new maintenance line, with high quality wood blocks, includes floor brushes, garage brushes, counter dusters, scrub brushes, deck scrubs, pot brushes, fender brushes and sanitary bowl brushes.

A catalog sheet describing the firm's line of maintenance brushes with Emprene bristles is available on request.

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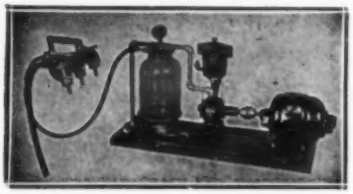

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Chem. Salesmen Nominators

Philip J. LoBue of the New York concern bearing his name, was elected chairman of the nominating committee at the annual meeting of the Salesmen's Association of the American Chemical Industry, held Oct. 24, at the Hotel Roosevelt, New York. A feature of the meeting was a show, produced, written, and participated in by members of the organization.

Others elected to the nominating committee are: Edward S. Burke of Edward S. Burke Co.; George Smith of George F. Smith, Inc., Edward L. Collins of Chilean Nitrate Sales Corp., Herbert S. Cottrell of Innis Speiden & Co., J. H. R. Stephenson, Givaudan-Delawanna, Inc., and Newell W. Wyatt of Westvaco Chemical Division, Food Machinery & Chemical Corp.

New officers will be installed at a meeting in January.

The organization's annual Christmas party will be held the evening of Wednesday, Dec. 13, at the Hotel Astor, New York.

Lions Name Haznaw

L. F. Haznaw, Florasynth Laboratories, Chicago, recently was appointed deputy district governor of the eastern region of the Lions International The eastern region of the fraternal order consists of 14 clubs which have a combined membership of approximately 500 members. Previously, Mr. Haznaw had served as zone chairman. He is a past president of the Westmont Lion's Club.

Aerosol Mildew Preventive

An aerosol preparation containing as its active ingredient "Milmer 1", a new liquid compound manufactured by Monsanto Chemical Co., St. Louis, currently is being distibuted for household use under the trade name "Formula J" by the J. W. Johnson Co., Bellwood, Ill. Two types are available, one for fabrics and one for leathers.

Industrial formulations of the product, marketed as "Cunilates", have been especially designed to treat a range of products, including canvas, cordage, paper, plastics and surface coatings. The dressing for fine leathers is a more recent development. This treatment involves the addition of revitalizing oils and thus prevents brittling, in addition to preventing mildewing.

"Cunilates" were developed originally for the U. S. Air Force, which has accepted them as standard treatment for protection against decay and rot of radio equipment, uniforms, tentage and cordage.

Formulations of the mildew agent are prepared by Scientific Oil Compounding Co., Chicago.

Form Adams-Henry Co.

Formation of Adams-Henry Chemical Co., 32 Broadway, New York, to deal in industrial and fine chemicals, was announced recently by John F. Henry and Halstead J. Adams, formerly sales executives with Joseph Turner & Co., Ridgefield, N. J.

Lehn & Fink's Profit Up

An increase in its net profits and sales for the year ending June 30, 1950, as compared with the previous year, was reported recently by Lehn & Fink Products Corp., Bloomfield, N. J. In the year ending June 30, last, the company had a net profit of $499,642, on sales of $16,346,617, as against a net of $440,647, on sales of $15,763,310 for the preceding 12 months.

New Sprayer-Atomizer

A new all-purpose sprayer-atomizer for use in insect and fungus control has been introduced to the American market during the first U. S. International Trade Fair at Chicago, recently. The device is being introduced by the French firm Sochica, and is said to be the first equipment available in the U. S. for applying insecticides and fungicides both in conventional forms of spraying and dusting, as well as by the newly developed techniques of mist dusting and atomizing of liquids.

The machine, marketed under the name "Pasteur," is of one piece design. It can be used for a variety of uses including disinfecting livestock.

Mill Creek Booklet

Mill Creek Products, Inc., Kansas City, Mo., recently issued a new bulletin, "Insecticides in Food Plant Sanitation Programs" for milk, butter, cheese and egg processors. Copies are available on request by writing the firm at 4722 Broadway.

Reports On Rat Control

J. J. Huberman, president of the Professional Exterminators Association, reported on a suggested model for rat control procedure to be used in conjunction with the "City Rat Control Program" sponsored by New York City, at a meeting at the American Museum of Natural History, recently. Guest speaker was Clinton Garvin of the New York City Department of Health.

Tests Chlordane Fogging

Louisiana Agricultural Experiment Station, Baton Rouge, recently reported that a building treated experimentally with a fogging machine using chlordane as the insecticide, retained its toxic residue for approximately one month. In the first two months following the fogging the toxic action of the residue was highly effective against cockroaches, reports C. E. Smith, head of the station's entomology research department, who with E. H. Floyd, associate entomologist, conducted the investigation. After two weeks the effectiveness of the residue was gradually reduced and after 45 days the toxicity had practically disappeared.

"It was found," says the report, "that fogging was quite effective in clearing the house of insect life during the time of actual exposure. Houseflies, silverfish and cockroaches were all dead 48 hours after the house was fogged. It was not effective against the rice weevil and flour beetles."

Additional tests in exposed cages, conducted following the treatment, showed that a toxic residue from the fog treatment is deposited on all flat and unobstructed surfaces. Within a room, say the entomologists, this means that a toxic deposit will be obtained on floor, table tops, etc., but not on ceiling or walls.

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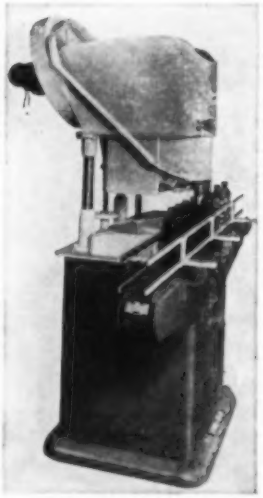

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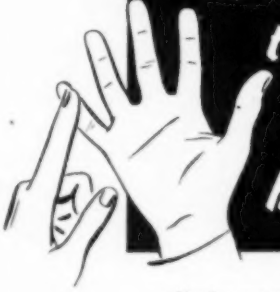

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Puritan Accepts Stipulation

Puritan Sales Co., Atlanta, recently signed a Federal Trade Commission stipulation in which the company agrees to stop representing that its dry rug shampoo will restore faded or soiled colors in rugs. The stipulation was approved by the Commission.

Penick "Dethmor" Booklet

A 24-page booklet, "Dethmor by Penick," which discusses the company's new rodenticide made from warfarin, was issued recently by S. B. Penick & Co., New York. The background of the development of warfarin (formerly Compound 42), which was discovered at the University of Wisconsin and patented and developed by the Wisconsin Alumni Research Foundation, the early test work with the rodenticide, its toxicity and formulations and directions for use of the rodenticide are covered in the booklet.

Distribute British Polish

Furmoto Chemical Co., London, England, signed a contract with Modern Chemicals of Chicago for $1,000,000 worth of polishes at the recent United States International Trade Fair held in Chicago. The Chicago concern is to take the whole order of polishes in a year. Oakley's, Toronto, Ont., also contracted with the English concern for $100,000 worth of polish. The Furmoto organization manufactures a floor polish which contains an insurance policy in each can which would pay approximately $280 to anyone who might slip on a floor waxed with the product.

Ask Widened FDA Powers

Power to prevent sales of food containing dangerous chemicals including soaps, cleaners and sprays was requested recently by the Food and Drug Administration. Dr. Paul B. Dunbar, FDA commissioner, and the first witness before a special House investigating committee, said that the public is the "guinea pig" under the present regulations which allow his agency to seize dangerous foods only after they are offered for sale. Power to block sales of drugs containing harmful chemicals should be extended to foodstuffs and insecticide preparations, he said.

Subpoena power to compel reluctant witnesses to appear at the hearings in chemical food poisoning cases also was asked by Dr. Dunbar.

FDA spokesmen presented a list of chemicals used in foods which were classed as toxic. Among these were included dinitro-o-cresol which the FDA said it had not been able to rule out completely for pesticidal use.

Quaternary Tablet Data

A bulletin describing the composition, germicidal activity and uses of "Steramine" tablets, a quaternary ammonium germicidal preparation, in tablet form, currently is available from Edwards-Councilor Co., Norfolk, Va.

Launch Polish Campaign

Goddard's Silver Polish of Leicester, England, currently is launching a campaign promoting the product in the United States. The American distributor is Manufacturers Marketing Co., 299 Madison Ave., New York.

Incorporates In New York

All State Sanitary Products Corp., 151 W. 25th St., New York, was incorporated recently with 200 shares of no par value to engage in the manufacture of cleaning and maintaining products. Richard Wiggins is head of the organization.

Givaudanian on Odor Books

"Books that Tell of Perfume and Fragrance" is the title of the principal article in the September issue of the *Givaudanian*, house magazine of Givaudan-Delawanna, Inc., New York. The market report in the current issue of the publication mentions the general trend toward higher prices on essential oils and the virtual disappearance from the market of geranium Bourbon and vetivert Bourbon (Reunion). The opinion is expressed that since production in Reunion has been normal the oil has been bought up by speculators.

Illinois Brush List

An eight-page folder listing new prices for brushes, dusters, mops, brooms, window cleaners, squeegees and other products recently was issued by Illinois Duster & Brush Co., 1944 Webster Ave., Chicago.

Toxaphene Plant Contract

A contract for the construction of the new plant for the production of toxaphene insecticide by Hercules Powder Co., Wilmington, Del., at Hattiesburg, Miss., was awarded recently to H. K. Ferguson Co., Pittsburgh. The plant is expected to increase the production of toxaphene by almost 50 per cent. Construction is to cost about $1,500,000. Initial output is planned to start in February.

David E. Kirkpatrick Dies

David Eccleston Kirkpatrick, 33, chemist with Fritzsche Brothers, Inc., New York, died recently in Princeton, N. J., Hospital of poliomyelitis. He is survived by his wife and two sons.

Plastic Gym Floor Coating

Development of what is claimed to be an abrasion resistant, durable floor finish for gymnasiums, handball courts and other recreational rooms was announced recently by Plastic Products of Ottawa, O. The new finish, which is being marketed under the trade name "Lino-Plastics" was announced following a two-year test at YMCAs in Toledo, Dayton and Cincinnati. The transparent, penetrating coating was given a "superior" rating by the physical directors of the YMCAs, according to the announcement.

The new coating incorporates a cellulose coating produced by the Merrimac division of Monsanto Chemical Co., Everett, Mass. Floors treated with the new liquid plastic finish are said to be non-porous and are not soiled by spilled liquids. The finish is applied by a lambs-wool applicator or brush. It is said to dry quickly, making the surface ready for play in a few hours' time. The transparent surfacing does not change the color of the playing floor.

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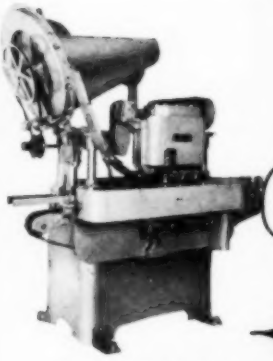

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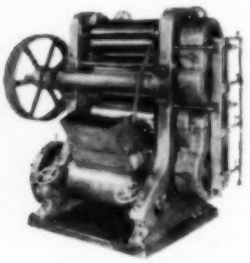

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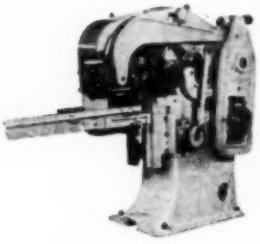

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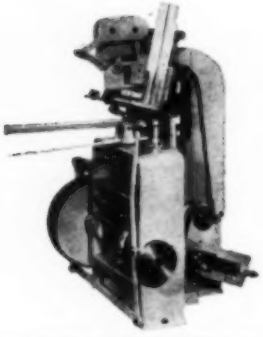

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If not, is it sufficiently fungistatic to prevent the growth of the organisms on the sample itself?

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Philadelphia • Penna.

For Sale

Well Established sanitary supply business equipped for the manufacture of floor waxes, oil soaps, soap powder, disinfectants, insecticides and many allied products. Inventory $20,000 raw materials. Location in the middle west. Owner wishes to retire. Address Box 282, c/o *Soap*.

For Sale: 1 — Proctor & Schwartz 4-section Soap Chip Dryer, with 5 roll Houchin Cooling Rolls; 1—Pkge. Mach. Co. N-1 Laundry & Toilet Bar wrapping machine; 1—Houchin hand soap slabber; 1—3500 lb. vertical jacketed crutcher, m.d., 1—Houchin 4-roll inclined Granite Mill, 18" x 30" rolls, pulley drive; 2 Jones vertical type B, toilet soap presses; 3—Houchin 3" soap strainers; 50-1200 lb. soap frames; 2—Sperry 36" x 36" recessed filter presses, 60 plates; 1—Dopp cast iron 600 gallon jacketed kettle; 1—Allbright-Nell 4' x 9' Chilling Roll. Only a partial list. Send us your inquiries. Consolidated Products Co., Inc., 15-21 Park Row, New York 7, N. Y., Barclay 7-0600. Cable address: Equipment, N. Y.

For Sale: Refining equipment consisting of Heating units, filter presses, mixing tanks with and without coils, agitators, 30 explosive-proof motors 3 H. P., 1-½ H. P. with or without built-on high pressure pumps, mixing pumps, automatic Bowser meters for blending. Ideal for reclaiming products. Call Hawthorne 7-1127 (N. J.)

For Sale: An established Janitor Supply business located in the eastern part of New York state. Very modern plant. Retiring due to illness. Write Box 283, c/o *Soap*.

For Sale

For Sale: Paste soap dispensers —heavy steel-nickel plated—durable —practical. Sample on approval $4.65. National Dispenser Co., 10210 LaSalle Ave., Los Angeles 47, Calif.

For Sale: J. H. Day, double arm sigma blade mixer 24"x24"x18" deep, tilting discharge. Plant Equipment Co., Cincinnati 3, Ohio.

For Sale: Horizontal powder mixers — 5000#, 1500#, 800#, 200#, 100#, and 50# cap. Stokes G-I-D Powder filler. Large stock stainless clad Kettles, 40# steam jacket, from 25 gal. to 150 gal. Perry Equipment Corp., 1515 W. Thompson Street, Phila., 21, Pa.

For Sale: Mikro pulverizers #1SH, 3HP. Other sizes. Allbright-Nell 4'x9' chilling rolls. Lehmann 4 roll W.C. 12"x36" steel mill. Houchin 8½"x16" 3 roll & 18"x30" 4 roll Granite Stone Mills. Anderson No. 1 Expellers. Jack, kettles & tanks, iron, copper, alum., stainless. Dryers vac & atmos. Jones automatic soap presses. Soap frames. Automatic soap chip dryer. Slabbers & cutting tables hand & Power. Crutchers. Blanchard #14 soap powder mill. 6 knife chipper. Foot presses. Filter presses 12" to 42". Wrapping & sealing machines. Powder, paste & liquid mixers. Rotex sifters. Filling machines. Grinders. Hammer mills. Mikro pulverizers. Colloid mills. Three roll steel mills. 3"x9", 9"x32", 12"x30", & 16"x40". Portable elec. agitators, pumps, etc. Send for bulletin. We buy your surplus equipment. Stein Equipment Co., 90 West St., N. Y. 6, N. Y. WOrth 2-5745.

For Sale: — see advertisement pages 32, 104, 146.

CSMA to Meet

(*From Page* 133)

by A. J. Shukas, U. S. Industrial Chemicals; "The Place of Allethrin in the Aerosol Program" by J. B. Moore, McLaughlin, Gormley King Co., Minneapolis; "New Developments in Sprayers" by Dr. William Dickison, H. D. Hudson Manufacturing Co., Chicago all part of symposium; and "Dairy Cattle Fly Sprays—Past and Present" by Dr. M. H. Doner, J. R. Watkins Co., Winona, Minn.; "Significance to the Insecticide Industry of Fly Resistance" by W. M. Upholt, U. S. Public Health Service, Savannah; "Report on Tolerance Hearings" by John D. Conner, C.S.M.A. Washington counsel; "Household and Cattle Sprayers" by Earl D. Anderson, Nat. Sprayer & Duster Assn., Chicago.

Joint Aerosol-Insecticide Divisions

"Survey of Retail Distribution Practices and Consumer Buying Habits of Aerosol Products" by F. L. Shackelford, C. E. Kimble and E. G. Young, E. I. du Pont de Nemours & Co., Kinetic Chemical Division; "Review of Operations Under the Federal Insecticide, Fungicide and Rodenticide Act since its Inception" by W. G. Reed, in charge of Insecticide Division, B.E.P.Q., U.S.D.A.; "Toxicity of Chlordane in Aerosols" by Dr. F. P. Heyroth, Kettering Laboratory of Applied Physiology, College of Medicine, University of Cincinnati; "General Philosophy of Toxicity as it Affects Household Insects" by Russell B. Stoddard, U. S. Industrial Chemicals, Inc., New York.

Fein Visits Other Americas

Joseph H. Fein, treasurer of Florasynth Laboratories, Inc., New York, returned recently from a three week trip through Central America and the north coast of South America. Accompanied by Jose Hernandez, export manager of the company, Mr. Fein visited a number of customers and representatives in Latin American countries, particularly Salvador, Panama and Venezuela.

CHOICE REBUILT EQUIPMENT

UNION Rebuilt Machinery — Established 1912

Mikro 4TH, 2TH, 1SH and Bantam Pulverizers, Jay Bee Mills U1 and 3AT, Schutz O'Neill, Williams, Stedman and Reitz Mills.
Stokes, Baker Perkins BB and Readco, Day, Hottman Mixers.
B.P. Jumbo type 3500 gal. Steam Jacketed Double Arm Sigma Blade Mixer.
Day & Robinson 100, 600, 2500, 4000 lbs. Dry Powder Mixers and Sifters.
Day 40 and 80 gal. Brighton Change-Can Mixer.
R. A. Jones Model Model E Automatic Soap Press, ½ to 4½ oz. cakes.

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A.M.F. Soap Amalgamators, 50 to 200 gallon capacities.
Houchin Aiken and National Equipment 3 to 5 Roll Soap Mills.
Stokes and Smith G1 and G4 Auger Powder Fillers.
Pneumatic Scale Auto. Carton Filling, Lining and Closing Machines.
Filler 1, 2, 4, and 8 Head Stainless Steel Automatic Piston Fillers.
Pneumatic Scale Co. Automatic Labeler.
Knapp E adj. Wraparound and Spot Labeler, 1 gal. (for jars with ears).
Pony M, ML and MX Labelrites, Ermold and World Semi-Automatic and Fully Automatic Rotary and Straightaway Labelers.
Triangle Model SHA Automatic Net Weigher and Carton Sealer.
Standard Knapp No. 429 Carton Sealer, 11 ft. Compression Unit.
Colton 4 PF Cream Filler.
Shriver, Republic, Sweetland, Alsop, Vallez and Sperry Filter Presses.
Package Machinery FA, FA2, FA2Q; Scandia Wrappers.

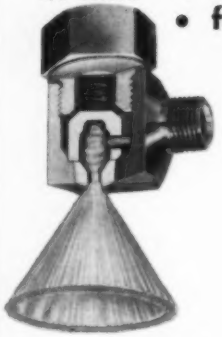
Union STANDARD EQUIPMENT CO.
318-322 LAFAYETTE ST., NEW YORK 12, N.Y.

Spray Nozzles

WHIRLJET 3/8 BBSSTC

- for soap spray drying
- for perfume spraying

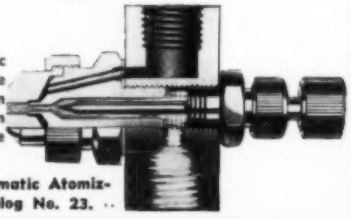
abrasion . . . corrosion resistant nozzle.



Here is the Spraying Systems nozzle used by leading soap manufacturers for effective, long-life nozzle performance in soap spray drying. Tungsten carbide orifice insert and whirl chamber plus patented internal design result in maximum possible abrasion resistance. Built in a range of sizes to provide the correct spray characteristics for quality production. Nozzle body and cap made of stainless steel. Write for Data Sheets 3491 and 3576.

for perfume spraying.

Spraying Systems Pneumatic Atomizing Nozzles. Provide extremely fine atomization with uniform spray pattern for such applications as the adding of perfumes.



- WRITE for Pneumatic Atomizing Nozzle Catalog No. 23.

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Engineers and Manufacturers

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$2.50 per lb.

Send for a Sample Today

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STATEMENT OF OWNERSHIP

Statement of the ownership, management, and circulation required by the Act of Congress of August 24, 1912, as amended by the acts of March 3, 1933, and July 2, 1946 (Title 39, United States Code, Section 233) of Soap and Sanitary Chemicals, published monthly at New York, N. Y., for October 1, 1950.

1. The names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Mac Nair-Dorland Co., Inc., 254 West 31st St., New York 1, N. Y.; Editor, Frank J. Reilly, 254 West 31st St., New York 1, N. Y.; Managing Editor, Wayne E. Dorland, 254 West 31st St., New York 1, N. Y.; Business Manager, Thomas Morgan, 254 West 31st St., New York 1, N. Y.

2. The owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding 1 percent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a partnership or other unincorporated firm, its name and address, as well as that of each individual member, must be given.)

Mac Nair-Dorland Co., Inc., 254 West 31st St., New York 1, N. Y.; Ira P. MacNair, 254 West 31st St., New York 1, N. Y.; Grant A. Dorland, Russell Cave Pike, Lexington, Ky.

3. The known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. Paragraphs 2 and 3 include, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting; also the statements in the two paragraphs show the affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner.

5. The average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the 12 months preceding the date shown above was: (This information is required from daily, weekly, semiweekly, and triweekly newspapers only.) .....

signed IRA P. MAC NAIR, Publisher

Sworn to and subscribed before me this 8th day of September, 1950.

(SEAL) HARRIET LEVINE

(My commission expires March 30, 1952.)

Issue Insecticide Warning

Caution in the use of insecticides containing HETP, TEPP and parathion was advised by members of American Medical Association's Committee on Pesticides at a recent meeting in Chicago. Recommendations concerning preparations made with these insecticides were reported in a recent issue of the Journal of the American Medical Association. A list of five safety measures to reduce exposure and minimize absorption of the insecticides was included.

Hinner to Hercules Post

Elmer F. Hinner was recently named general manager of the Virginia Cellulose Department of Hercules Powder Co., Wilmington, Del. He succeeds Lloyd Kitchel, who died suddenly on June 30. Mr. Hinner has been with the firm since 1927, and during most of his career has been associated with the department he now heads. He is a graduate of Penn State College.

Wall Cleaning Data

A folder describing the history of mechanical wall washing and modern techniques applied to the process currently is being distributed by Rex-Cleanwall Corp., Brazil, Ind. Copies of the folder "Advent of the Wall Washing Machine" are available upon request.

File to Incorporate

Articles of incorporation were filed recently with the office of the secretary of state of New York at Albany for the following:

Keen Cleaner Corp. to deal in cleaning fluid and powder. Capital stock listed at $5,000. Directors: Henry H. Hannel, 93 Wesley Ave., Buffalo; George E. Burns, 184 Smallwood Drive, and Eugene M. Downey, 41 Huxley Drive, both Snyder, N. Y.

R. I. G. Products, Inc., disinfectants, germicides, etc., with capital stock of $20,000. Directors: Lillian S. Wright, Albert M. Sousa and Sybil Cohn, all of 61 Broadway, New York.

Pontiac Products Corp., to manufacture floor polishes, waxes, etc., with capital stock of 204 shares, no par value. Directors: Sol Ruden, 11 Chimney Pot Lane, Ardsley, N. Y.; Samuel Schwartz, 225 W. 106th St., New York and Sherwin D. Lester, 2554 Hudson Blvd., Jersey City, N. J.

Soap 'n Suds Corp., soaps, waxes, detergents, etc. Capital stock listed as 200 shares no par value. Directors: Sol Rosenbluth, Claire Gerner and Milton Fisher, 270 Broadway, New York.

Smoothway Products Corp., to manufacture toilet supplies, soaps, cleaning and polishing compounds. Capital stock listed as $45,000. Directors: Samuel D. Magavorn, Francis S. Faust and Isabel K. Smith, all of 621 Erie Co., Bank Building, Buffalo, N. Y.

Frank Disinfecting Co., Inc., disinfectants, antiseptics, soaps, etc. Capital stock listed as $100,000. Directors: Louis P. Neustein, Hugo I. Evans and Marie Mortensen, all of 233 Broadway, New York.

Tru-Tox, Inc., to manufacture disinfectants, washing and cleaning materials. Capital stock listed as $1,000. Directors: James A. Mitchell and Ingeborg M. Mitchell, both of 1976 E. 28th St., Brooklyn, and Patrick J. Byrne, 118 Noel Ave., Brooklyn.

Detroit Firm Incorporates

Detroit Chemical Specialties Co., formerly a partnership, recently incorporated under the name Detroit Chemical Specialties, Inc. The organization also has moved to 9072 Livernois St., Detroit.

Chi. DDT Spraying

Aerial spraying of DDT to kill flies was tried out in Chicago recently, the project being limited to one neighborhood, the 48th ward. Funds raised by popular subscription were sufficient for six treatments of the district. Disease rates in the ward will be checked by Board of Health authorities and if appreciable results are achieved, the figures will be used to support a movement for a city-wide aerial spraying program in 1951.

Chicago is only one of several hundred municipalities which have tried aerial spraying and dusting of insecticides to check disease epidemics or halt insect infestations. First large scale spraying of cities from the air was in 1948, when 119 communities were so treated. In 1949 the number increased to 265 cities, according to the Aircraft Industries Association of America, which says that this year a much larger number of cities were to be given the aerial chemical going over.

Spraying of DDT to reduce incidence of polio has been well publicized. At Miami, Fla., last year, the aircraft industry's trade association reports, spraying with DDT was done every day for six weeks to combat mosquitoes. Public health authorities there reported that, despite this heavy bombardment, there was not a single instance of bad toxic effects, either upon people or animals.

McCormick Military Duty Policies

REGULAR employees of McCormick and Co., Baltimore, called for active service with the armed forces, are guaranteed job security and full participation in the company's benefit and paid vacation program while on military leave, it was announced recently by Charles P. McCormick, president.

"It is our intent," Mr. McCormick said, "to assure each employee on military leave continuation of everything he would receive if still on the active payroll of the company, with the single exception that he is on government pay instead of company pay.

Under the company's program, each qualified employee summoned to active duty will receive (1) military separation pay scaled to length of service; (2) accumulated vacation pay, to be paid upon return to work; (3) company profit-sharing contributions to the retirement income Trust; (4) full protection under the company-paid pension plan; (5) all the employee dividends declared in the form of periodic profit sharing bonuses during his absence, to be paid upon return to work; (6) entire group insurance premium payments to be made by the company; and, (7) reemployment rights as set forth in the Selective Service Act of 1948.

McCormick and Co. also grant two weeks training duty with full pay to employees who are members in good standing in the reserve components of the Army, Navy, Air Force or Marines. Any employee who fulfills the requirements of the reserve forces of which he is a member, including regular attendance at drill, for the full year period, is eligible for his two weeks' training duty annually at full pay, in addition to his normal vacation allowance.

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cetyl oleyl stearyl

fatty alcohols

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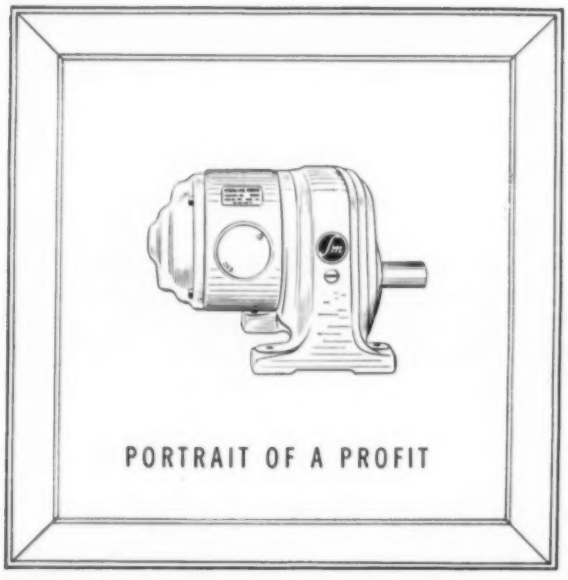
since 1926 basic suppliers to chemical manufacturers and distributors

Cachalot is the trade name for top quality fatty alcohols. These C_{16} and C_{18} alcohols are available in NF, USP, and technical grades. Manufacturers of soap, textile specialties, and cosmetics make profitable products from these raw materials. Various mixtures of *Cachalot* alcohols may meet your specifications for an emulsifier, emollient, penetrant, stabilizer, or softener. Still other uses are described in the *Cachalot* booklet. For your copy, and information on how to use *Cachalot* fatty alcohols in your products, write M. Michel and Company, Inc., 90 Broad Street, New York 4, N. Y.



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PLANTS: NEW YORK 51, LOS ANGELES 22, HAMILTON, CANADA—OFFICES IN PRINCIPAL CITIES
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SLO-SPEED (Geared) • SPEED-TROL (Variable Speed) • KLOSD (Normal Speed)

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WRITE FOR FREE SAMPLE

With a 2-ply, one piece Duro-Meter Rubber (Service and Cushion combined). Handle designed to give maximum strength.

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FLOOR SQUEEGEES

3-ply, one piece construction Neoprene Rubber. Easier to use, dries floors faster. Oil resistant.

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ADVERTISING CLOSING DATE
for SOAP AND SANITARY CHEMICALS is the
10th of preceding month

YOUR COOPERATION IN FURNISHING COPY INSTRUCTIONS ON TIME WILL HELP US MEET OUR PUBLICATION DATE.

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Not a chance . . .

FOR years, a certain chemical outfit has been a prolific advertiser. Never a month has gone by for over a quarter-century without its advertising popping up regularly and often. And the firm has grown and grown. Recently, one of the company big-shots was asked to account for their success. "Simple," said he. "We just find out who does or may buy our stuff, and ignore everybody else. But, boy, those we can sell, we never give 'em a rest or a chance to forget us."

So, if you don't want to give 'em a chance to forget you in the field of soaps and detergents, floor waxes, polishes, insecticides, disinfectants, and all the other chemical specialties and janitor supplies, we suggest that you can do this at lowest cost and with greatest chance of success through regular advertising in

SOAP *and Sanitary Chemicals*

254 WEST 31st STREET NEW YORK

Tale Ends

THE people of Fall River, Mass. are twice as clean today as ten years ago, according to Miss Inah G. Lowell, well-known New England social worker, if the consumption of city water and soap is a true criterion of such a condition. She lays it to higher incomes for everybody, giving Mrs. McGuff some extra money to buy soap after she pays for the family beans each week. Consequently, McGuff takes more showers and wears more clean shirts. Simple, when explained!

• • •

Congratulations to Lux Flakes! The old boy is celebrating his 50th birthday this year and still going strong. But, psst,—his name wasn't always Lux. He first came out in 1899 as Sunlight Flakes, but in 1900, they rechristened him "Lux Flakes" and then he went to town. It was not until 18 years later that his first competitor appeared on the market. Well, here's to another 50 years for you, Lux, old kid!

• • •

From Cape Town, South Africa, comes word that local women have gone slightly balmy over the idea of rinsing their hair with beer or whiskey after a shampoo. Beer is the most popular rinse, they tell us, but whiskey and brandy are used also quite widely. And this goes to show what can happen in a world gone crazy. In our humble opinion, gentle reader, any person, female or otherwise, who would rinse his or her hair with whiskey when he or she might drink it, is unequivocally a candidate for the nut house!

• • •

"Your trade name is worth more than your plant." Peck Advertising Agency in N. Y. recently used this as the heading on an advertisement, going on to mention that they meant good will, reputation, and brand identification and recognition. To this we can say a strong "amen." Over the years, we have seen large factories wither away and eventually be sold for junk where trade names lost their places in the sun of public demand and favor. And the first step usually was to "save" the money previously spent on advertising.

• • •

People of Czechoslovakia are being urged to save peach and apricot pits and turn them into the authorities so they can be made into soap and cosmetics, according to the Communist newspaper, "Revnost." That peach kernel oil could and does make excellent soap, there is no doubt. The cost of processing the pits and getting the oil to the soap kettle, we estimate would not be much more than three dollars per pound.

• • •

Tallulah Bankhead's action against P & G on account of that shampoo advertising jingle about "Tallulah, the Tube," was settled out of court by the insurance company for a reputed 5 Gs. The original suit was for a million. We still think that Miss Bankhead received her full million in value, $995,000 in nationwide publicity and 5 Gs in cash.

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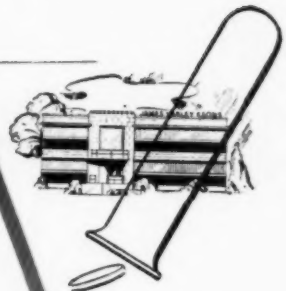

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